

NORTH RIVER SALMON COUNTING TOWER
PROJECT SUMMARY REPORT, 2000

By

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and

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ABSTRACT

The North River is the largest of the five major tributaries of the Unalakleet River, which is the largest salmon producer in Norton Sound. The counting tower is located approximately 20 minutes by boat upstream from the village of Unalakleet in eastern Norton Sound. The North River counting tower project is a cooperative project funded and operated by the Kawerak Corporation. 2000 was the fifth consecutive year a salmon counting tower was operated on the North River. A counting tower was previously operated on the North River for three years from 1972 through 1974 and for three years from 1984 through 1986. The objective of the project is to obtain daily and seasonal information concerning the timing and magnitude of the chum, pink, king and coho salmon escapement to the North River. Counting began on 17 June and ended on 12 August 2000. The crew counted 20 half-hour counts for three days, followed by 24 half-hour counts on the fourth day. The counts for each half hour shift were doubled to produce the expanded hourly counts for each species. The expanded counts for 2000 were: 4,971 chum salmon, 69,703 pink salmon, 1,046 king salmon and 6,959 coho salmon. Before 22 June and from 15 to 23 July, passage estimates are unreliable because of problems with the weir and washouts. The chum salmon count past the tower was the fourth highest since the project started in 1972. The even year pink salmon count past the counting tower was the second lowest recorded. The king salmon count past the tower was the third lowest recorded and the coho salmon count was the highest ever recorded.

INTRODUCTION

The North River counting tower is a cooperative project funded and operated by the Kawerak Corporation. The Alaska Department of Fish & Game (ADF&G) provided equipment for this project, analyzed and expanded the tower count data, and produced this report.

The North River is the largest of the five major tributaries of the Unalakleet River, which is the largest salmon producing system in Norton Sound. This was the fourth consecutive year a salmon counting tower was operated on the North River, approximately two miles above its confluence with the Unalakleet River (Figure 1) (Rob 1997, 1998, 1999 and Kohler 2000). A counting tower was previously operated on the North River for the three years from 1972 through 1974 near the North River bridge (Regnant and Trasky 1973, and Cunningham 1974 and 1975) and for the three years from 1984 through 1986 (Lean 1985-1987). Chum salmon were the primary species harvested in the Unalakleet subdistrict commercial fishery during the early years of the project. The project was discontinued at that time because of a lack of funding, and because the small chum salmon run on the North River was not considered a reliable index of chum salmon abundance for the entire Unalakleet River system. Recent increasing commercial importance of pink, king and coho salmon combined with the relatively large runs of these species in the North River, and the availability of funding combined to make this project feasible again.

OBJECTIVES

The objective of this project was to obtain daily and seasonal information concerning the timing and magnitude of the chum, pink, king and coho salmon escapement to the North River.

METHODS

The North River counting tower camp is located on Unalakleet Native Corporation land. The camp is approximately 20 minutes by boat from the village of Unalakleet.

A tent camp with two tent frames and an outhouse was established in mid-June. A scaffolding tower was erected on the bank of the river to serve as an observation platform. A new vinyl canvas, flash panel was placed on the river bottom directly in front of the tower. Despite damage in 1999, the weir was rebuilt and straightened from the mid-stream end of the flash panel to the opposite bank.

Counting began on 17 June and ended on 12 August. The project design required the crew to count 20 half-hour counts for three days followed by 24 half-hour counts on the forth day. The daily counts considered in this report run from 0000 hours to 2330 hours. The counts for each half hour shift were doubled to produce the reported hourly counts for each species. Each day the reported hourly counts were added to produce a daily subtotal. Every day the daily and cumulative subtotals for each species were relayed to the ADF&G Unalakleet office by radio.

The expanded counts for this report were calculated using the following methods. Expanded hourly counts for the hours of the days off were estimated by adding the counts of each hour of the day before, to the counts of each hour of the day following, and dividing the result by two. The expanded counts for periods of time greater than one day missed because of high water, were linearly interpolated in a similar manner (Rob 1999). The chum salmon counts for the four hours not counted between 5 August and 11 August were not expanded as they resulted in unreasonably large negative numbers.

RESULTS

Table 1 shows the expanded daily and cumulative totals for each salmon species. Challenges with high water conditions and mechanical problems with the weir, described in the discussion section, affected reliability of the reported salmon passage estimates, most notably before 21 June, between 15 and 21 July, and 1-3 August. The actual reported total hourly counts were 3,802 chum salmon, 62,194 pink salmon, 848 king salmon, and 5,310 coho salmon (Tables 6-9). The expanded counts were: 4,971 chum salmon, 69,703 pink salmon, 1,046 king salmon and 6,959 coho salmon (Tables 2-5).

Chum salmon were observed on 17 June, the first day of counting, king salmon were first observed on 18 June, pink salmon were first observed on 23 June and coho salmon were first observed on 11 July. The daily peak count of 592 chum salmon and 228 king salmon occurred on 9 July; the daily peak count of 9,708 pink salmon occurred on 1 July; the daily peak count of 860 coho salmon occurred on 7 August (Table 1).

Approximately 90% of the chum salmon passage occurred during the month of July (Table 2, Figures 3-4). Approximately 90% of the pink salmon passage occurred during the 4 weeks from 23 June through 15 July (Table 3, Figures 5-6). Approximately 95% of the king salmon passage occurred before 25 July (Table 4, Figures 7-8). Approximately 96% of coho salmon passage occurred during the last 20 days of counting tower operation (Table 5, Figures 9-10).

All species counted exhibited a diurnal pattern of migration past the counting tower. During the fourteen-hour period from 1400 to 0400 hours, 93% of the chum salmon passed the tower (Table 2, Figure 11). During the eleven-hour period from 1600 to 0300 hours, 85% of the pink salmon passed the tower (Table 3, Figure 12). During the period from 1600 to 0400 hours 75% of the king salmon passed the tower (Table 4, Figure 13).

During the eleven-hour period from 1500 to 0200 hours, 81% of the coho salmon passed the tower (Table 5, Figure 14).

Poor weather conditions and lack of personnel prevented aerial surveys of the Unalakleet and North Rivers. Therefore, no comparisons were made between aerial surveys and the tower counts.

Climatological observations are shown in Table 10.

DISCUSSION

This was the fifth year the North River tower project operated at this site. It originated in 1996 through cooperation with the Bering Sea Fishermen's Association and Kawerak Incorporated with ADF&G. Water conditions at this site have been marginal at best with high water washouts causing the project to shut down prematurely during the previous three seasons. In 2000, daily counting began on 17 June, but the weir and flash panel installation was not completely in the water until 22 June. An experimental type of weir was tried this season to see if the design could withstand high water events. It was constructed of ten-foot sections of PVC pipe laid parallel and connected by T-fittings at one end and rope on the other. A rope was strung through the T-fittings, which was anchored at both ends, holding one edge of the weir structure close to the bottom. The other end of each pipe was capped, trapping air and causing the trailing edge of the weir to float at moderate water levels. The idea was to create a weir that would not load up with debris during heavy flows and washout.

Initially, the trailing edge of the pipe weir did float at the surface, allowed debris to pass over the top, and routed fish over the flash panel as intended. The base of the weir needed faster anchoring or sandbagging, and midsections of the pipe needed to be harnessed in some fashion to minimize gaps created by bowing of individual pipes. Heavy rains and cloudy water beginning 15 July caused the water level to rise 10 inches overnight and interrupted all counting effort through 23 July. Once the water cleared, the weir was visibly washed out of position rendering it nonfunctional. After the weir was reinstalled, counting resumed. Further washouts occurred on 1 August, 3 August, and 12 August, which likewise interrupted counting.

The counts were used as relative comparisons from day to day for assessing run strength. Large blocks of time were not counted due to poor conditions and weir failure. Although count expansions were calculated to estimate salmon abundance, confidence in those numbers should be minimal because broad liberties were taken with the sampling assumptions. During the period from 15 July to 23 July, all the counts were missed and a considerable portion of the run could have passed during this time. Efforts were made to count during the times of day when the highest salmon passage typically occurred (mornings and evenings). Often, much of the river was not visible during low light and murky conditions after the weir washed out and the flash panel became semi-obscured.

Therefore, actual counts should be considered minimal counts and expansions are simply best approximations.

The chum salmon passage estimate was the fourth highest since the project started in 1972. Significant numbers of chum salmon were probably missed because of the problems with the weir and flash panel (Appendix Table 1, Figure 15). The even year pink salmon passage estimate was the second lowest recorded, but well above the minimum tower Biological Escapement Goal (BEG) of 8,500 (Appendix Table 2, Figure 16). The odd year pink salmon escapements are shown in Appendix Table 2 and Figure 17. The king salmon passage estimate was the third lowest ever recorded and below the tower BEG range of 1,200 to 2,400. However, the king expansion for the period 15-23 July played a large role in the passage estimate (Appendix Table 3, Figure 18). The coho salmon escapement was the highest ever recorded (Appendix Table 4, Figure 19).

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Table 1. Expanded daily and cumulative migration of all salmon species past the North River counting tower, Norton Sound, 2000.

Date	Daily Chum	Cumulative Chum	Daily Pink	Cumulative Pink	Daily King	Cumulative King	Daily Coho	Cumulative Coho
17-Jun	2	2	0	0	0	0	0	0
18-Jun	0	2	0	0	2	2	0	0
19-Jun	0	2	0	0	0	2	0	0
20-Jun	20	22	0	0	12	14	0	0
21-Jun	2	24	0	0	4	18	0	0
22-Jun	4	28	6	6	4	22	0	0
23-Jun	52	80	1,158	1,164	8	30	0	0
24-Jun	12	92	148	1,312	2	32	0	0
25-Jun	36	128	3,046	4,358	12	44	0	0
26-Jun	20	148	1,000	5,358	2	46	0	0
27-Jun	14	162	1,666	7,024	6	52	0	0
28-Jun	4	166	150	7,174	-2	50	0	0
29-Jun	72	238	1,606	8,780	24	74	0	0
30-Jun	132	370	3,072	11,852	78	152	0	0
1-Jul	164	534	9,708	21,560	56	208	0	0
2-Jul	94	628	9,206	30,766	50	258	0	0
3-Jul	146	774	8,042	38,808	70	328	0	0
4-Jul	256	1,030	2,444	41,252	40	368	0	0
5-Jul	92	1,122	1,614	42,866	24	392	0	0
6-Jul	30	1,152	1,092	43,958	40	432	0	0
7-Jul	462	1,614	4,386	48,344	82	514	0	0
8-Jul	77	1,691	2,241	50,585	52	566	0	0
9-Jul	592	2,283	3,510	54,095	228	794	0	0
10-Jul	154	2,437	1,068	55,163	28	822	0	0
11-Jul	150	2,587	1,504	56,667	8	830	16	16
12-Jul	212	2,799	1,662	58,329	8	838	4	20
13-Jul	250	3,049	2,360	60,689	16	854	0	20
14-Jul	18	3,067	698	61,387	0	854	0	20
15-Jul	284	3,351	1,555	62,942	45	899	16	36
16-Jul	136	3,487	870	63,812	23	922	33	69
17-Jul	136	3,623	866	64,678	23	945	33	102
18-Jul	136	3,759	870	65,548	23	968	33	135
19-Jul	136	3,895	866	66,414	23	991	33	168
20-Jul	136	4,031	706	67,120	26	1,017	33	201
21-Jul	136	4,167	706	67,826	23	1,040	33	234
22-Jul	136	4,303	706	68,532	23	1,063	33	267
23-Jul	89	4,392	302	68,834	13	1,076	37	304
24-Jul	53	4,445	104	68,938	2	1,078	164	468
25-Jul	197	4,642	274	69,212	7	1,085	256	724
26-Jul	36	4,678	20	69,232	-8	1,077	96	820
27-Jul	-4	4,674	70	69,302	-14	1,063	44	864
28-Jul	14	4,688	90	69,392	2	1,065	226	1,090
29-Jul	52	4,740	170	69,562	0	1,065	332	1,422
30-Jul	40	4,780	136	69,698	0	1,065	460	1,882
31-Jul	45	4,825	-4	69,694	-10	1,055	207	2,089
1-Aug	38	4,863	2	69,696	-9	1,046	268	2,357
2-Aug	49	4,912	0	69,696	-2	1,044	145	2,502
3-Aug	72	4,984	0	69,696	0	1,044	348	2,850
4-Aug	-50	4,934	2	69,698	0	1,044	586	3,436
5-Aug	1	4,935	2	69,700	0	1,044	538	3,974
6-Aug	2	4,937	0	69,700	0	1,044	725	4,699
7-Aug	6	4,943	2	69,702	0	1,044	860	5,559
8-Aug	21	4,964	1	69,703	0	1,044	369	5,928
9-Aug	-52	4,912	0	69,703	0	1,044	8	5,936
10-Aug	39	4,951	0	69,703	0	1,044	623	6,559
11-Aug	30	4,981	0	69,703	0	1,044	336	6,895
12-Aug	-10	4,971	0	69,703	2	1,046	64	6,959
Total	4,971	69,703		1,046		6,959		

Table 2. Expanded daily hourly chum salmon migration past the North River counting tower, Norton Sound, 2000

Date	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Total	% of Total	
17-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.0%		
18-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
19-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
20-Jun	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0.4%		
21-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0.0%		
22-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0.1%		
23-Jun	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	48	2	52 1.0%	
24-Jun	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	12 0.2%	
25-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	18	14	2	0	36	0.7%	
26-Jun	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	2	2	20	0.4%	
27-Jun	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0.3%	
28-Jun	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0.1%	
29-Jun	0	2	62	-4	0	10	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	72	1.4%	
30-Jun	6	20	34	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	48	132 2.7%	
1-Jul	8	14	30	0	0	2	0	0	0	0	0	0	0	0	0	0	6	0	22	14	18	4	18	28	164	3.3%	
2-Jul	4	28	22	4	0	4	0	0	0	0	0	0	0	0	2	0	0	20	4	6	0	0	0	0	94	1.9%	
3-Jul	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	14	28	62	24	8	0	0	0	146	2.9%	
4-Jul	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	96	38	2	80	4	34	256	5.1%		
5-Jul	12	20	4	4	0	0	10	0	0	0	0	0	0	0	0	0	4	2	0	28	6	2	0	0	92	1.9%	
6-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	12	0	30 0.6%
7-Jul	56	168	108	38	6	14	10	0	2	0	0	0	0	0	8	2	0	4	28	6	4	0	0	8	462	9.3%	
8-Jul	6	0	8	6	4	10	6	4	0	0	0	0	0	0	9	0	0	0	2	10	0	6	0	2	4	77	1.5%
9-Jul	10	28	10	6	2	12	12	6	1	1	1	1	0	18	36	94	92	60	62	68	28	16	14	14	592	11.9%	
10-Jul	24	12	6	12	0	6	10	16	0	0	0	0	0	6	0	0	0	0	4	2	12	0	36	8	154	3.1%	
11-Jul	6	56	20	4	6	10	12	4	0	2	0	0	0	0	0	0	0	2	0	0	0	2	18	8	150	3.0%	
12-Jul	30	28	20	26	14	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	70	212 4.3%		
13-Jul	64	66	42	26	10	6	8	0	0	0	0	0	0	0	0	0	4	0	0	0	2	4	2	6	10	250	5.0%
14-Jul	0	2	4	2	0	2	0	6	0	0	0	0	0	0	0	-4	0	0	4	0	0	0	2	0	0	18	0.4%
15-Jul	12	48	56	22	10	14	10	6	0	0	0	0	0	12	2	40	20	24	4	2	1	0	2	-2	1	284	5.7%
16-Jul	6	22	28	9	6	6	4	1	0	0	0	0	0	6	1	20	8	12	3	2	1	0	2	-2	1	136	2.7%
17-Jul	6	22	28	9	6	6	4	1	0	0	0	0	0	6	1	20	8	12	3	2	1	0	2	-2	1	136	2.7%
18-Jul	6	22	28	9	6	6	4	1	0	0	0	0	0	6	1	20	8	12	3	2	1	0	2	-2	1	136	2.7%
19-Jul	6	22	28	9	6	6	4	1	0	0	0	0	0	6	1	20	8	12	3	2	1	0	2	-2	1	136	2.7%
20-Jul	6	22	28	9	6	6	4	1	0	0	0	0	0	6	1	20	8	12	3	2	1	0	2	-2	1	136	2.7%
21-Jul	6	22	28	9	6	6	4	1	0	0	0	0	0	6	1	20	8	12	3	2	1	0	2	-2	1	136	2.7%
22-Jul	6	22	28	9	6	6	4	1	0	0	0	0	0	6	1	20	8	12	3	2	1	0	2	-2	1	136	2.7%
23-Jul	6	22	28	9	6	6	4	1	0	0	0	0	0	6	1	0	-4	0	2	0	2	0	2	-4	2	89	1.8%
24-Jul	0	-4	0	-4	2	-2	-2	-4	4	-4	4	4	0	0	-4	-4	-1	6	12	0	25	17	8	8	53	1.1%	
25-Jul	10	8	38	8	0	6	0	2	0	0	0	0	0	2	0	-2	2	2	4	3	50	32	20	14	197	4.0%	
26-Jul	24	10	2	2	0	0	-6	-2	0	0	0	0	0	0	-4	0	4	-2	2	6	0	-2	4	-2	36	0.7%	
27-Jul	2	0	4	-4	0	-6	-2	0	0	-2	0	-2	0	2	2	2	0	0	0	0	2	0	-2	0	-4	-0.1%	
28-Jul	0	4	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	6	0	0	14	0.3%
29-Jul	0	8	4	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	2	4	2	24	2	0	52	1.0%	
30-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	2	12	20	0	0	0	40	0.8%	
31-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	0	2	0	0	0	-8	4	20	24	12	0	45	0.9%
1-Aug	42	18	-2	4	-8	-24	-10	-14	0	0	0	0	-1	0	1	-2	0	1	-4	-1	11	18	8	1	38	0.8%	
2-Aug	22	18	1	8	0	-11	-5	-6	0	0	0	0	-1	0	1	-2	0	2	0	2	2	12	4	2	49	1.0%	
3-Aug	2	18	4	12	8	2	0	2	0	0	0	0	-2	0	0	-4	0	2	14	26	4	-8	-4	-4	72	1.4%	
4-Aug	40	14	0	-2	4	-16	-20	-24	-18	-16	2	-14	0	0	0	0	0	0	0	0	0	0	0	-50	-1.0%		
5-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.0%		
6-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.0%		
7-Aug	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0.1%		
8-Aug	4	4	0	0	0	0	0	0	0	0	0	0	0	-1	0	1	2	-2	-3	-2	4	-6	4	8	21	0.4%	
9-Aug	-6	4	-8	2	-10	4	-6	-4	0	0	0	0	-2	0	2	4	-4	-6	-4	2	-2	2	-8	-12	-52	-1.0%	
10-Aug	-2	2	-6	2	2	4	0	-1	-6	0	0	0	0	6	18	2	6	8	2	-2	0	-2	-4	6	4	39	0.8%
11-Aug	10	0	-2	-6	-2	0	4	-6	0	0	0	0	2	4	2	0	6	-2	-4	6	4	2	8	4	30	0.6%	
12-Aug	0	0	0	0	-2	0	0	-4	0	0	0	-4	0	0	0	0	0	0	0	0	0	0	-10	-0.2%			
Total	442	782	697	244	100	113	62	-10	-15	-1	-15	70	61	231	190	251	191	284	242	252	287	247	285	4,971	100%		
	8.9%	15.7%	14.0%	4.9%	2.0%	2.3%	1.2%	-0.2%	-0.3%	-0.4%	0.0%	-0.3%	1.4%	1.2%	4.6%	3.8%	5.0%	3.8%	5.7%	4.9%	5.1%	5.8%	5.0%	5.7%	100.0%		

Table 3. Expanded daily hourly pink salmon migration past the North River counting tower, Norton Sound, 2000.

Date	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Total	% of Total		
17-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
18-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
19-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
20-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
21-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
22-Jun	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
23-Jun	50	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	6	0	0	0	0	804	294	1,158	1.7%		
24-Jun	140	0	0	0	0	0	0	2	0	0	0	0	-2	0	-2	0	0	0	0	0	-2	0	8	4	148	0.2%		
25-Jun	24	106	4	6	0	0	0	0	6	6	6	6	0	0	4	4	42	0	306	1090	44	528	636	228	3,046	4.4%		
26-Jun	364	295	16	4	0	0	0	0	4	4	4	4	0	4	2	6	0	0	0	0	0	80	56	156	1,000	1.4%		
27-Jun	28	4	26	4	0	6	0	0	7	7	7	7	0	0	0	0	0	0	0	0	0	0	156	2	1400	12	1,666	2.4%
28-Jun	70	8	4	6	6	0	8	0	1	1	1	1	0	2	4	0	0	0	0	0	2	0	0	10	26	150	0.2%	
29-Jun	14	132	1072	-90	2	274	4	0	10	6	6	4	0	-2	0	0	6	10	0	44	2	2	-8	118	1,606	2.3%		
30-Jun	224	302	188	56	16	74	6	0	12	12	12	12	0	0	0	0	0	28	6	6	0	26	632	1460	3,072	4.4%		
1-Jul	636	430	514	246	40	86	60	4	39	39	39	39	0	0	0	40	8	60	758	1010	1116	380	1492	2672	9,708	13.9%		
2-Jul	280	620	770	62	70	132	58	12	37	37	37	37	12	102	96	0	0	2522	1310	1172	584	194	1062	0	9,206	13.2%		
3-Jul	446	550	44	4	0	6	4	0	57	57	57	57	0	0	0	1092	1946	710	392	434	26	200	60	1900	8,042	11.5%		
4-Jul	8	12	0	22	2	8	0	0	24	24	24	24	0	0	24	8	0	36	364	162	124	908	214	456	2,444	3.5%		
5-Jul	172	438	70	20	26	22	200	0	16	16	16	16	0	0	2	16	4	22	0	376	70	56	46	10	1,614	2.3%		
6-Jul	72	112	30	8	16	2	8	0	11	11	11	11	8	0	0	16	0	0	0	4	4	310	404	54	1,092	1.6%		
7-Jul	256	696	364	114	70	32	284	164	24	10	124	16	10	26	272	48	38	150	922	212	124	66	84	280	4,386	6.3%		
8-Jul	104	4	114	72	40	50	76	106	22	22	22	22	12	87	28	44	22	34	904	36	94	86	66	174	2,241	3.2%		
9-Jul	270	170	158	66	54	62	90	56	35	35	35	35	14	148	88	164	322	298	552	524	46	48	80	160	3,510	5.0%		
10-Jul	176	80	38	28	14	52	38	50	10	10	10	10	4	22	-4	6	14	6	6	14	60	90	228	106	1,068	1.5%		
11-Jul	86	150	108	24	32	56	104	24	36	36	26	26	0	0	0	0	8	18	0	0	0	80	282	408	1,504	2.2%		
12-Jul	506	256	144	96	36	2	26	0	12	12	12	12	0	0	2	0	12	4	0	0	24	28	40	438	1,662	2.4%		
13-Jul	658	468	608	26	28	52	98	12	18	18	18	18	16	18	4	4	4	4	0	10	14	4	124	136	2,360	3.4%		
14-Jul	0	10	8	12	2	46	20	54	5	5	5	5	0	0	12	10	42	140	104	48	68	56	46	0	698	1.0%		
15-Jul	84	180	154	40	36	16	154	64	-12	2	40	16	28	40	228	98	114	136	47	20	26	18	16	10	1,555	2.2%		
16-Jul	50	98	86	20	14	9	75	34	7	7	7	19	19	95	48	60	78	47	20	26	18	16	10	870	1.2%			
17-Jul	50	98	86	20	14	9	75	34	6	6	5	19	19	95	48	60	78	47	20	26	18	16	10	866	1.2%			
18-Jul	50	98	86	20	14	9	75	34	7	7	7	19	19	95	48	60	78	47	20	26	18	16	10	870	1.2%			
19-Jul	50	98	86	20	14	9	75	34	6	6	6	19	19	95	48	60	78	47	20	26	18	16	10	866	1.2%			
20-Jul	50	98	86	20	14	9	75	34	-34	-34	-34	-34	19	19	95	48	60	78	47	20	26	18	16	10	706	1.0%		
21-Jul	50	98	86	20	14	9	75	34	-34	-34	-34	-34	19	19	95	48	60	78	47	20	26	18	16	10	706	1.0%		
22-Jul	50	98	86	20	14	9	75	34	-34	-34	-34	-34	19	19	95	48	60	78	47	20	26	18	16	10	706	1.0%		
23-Jul	50	98	86	20	14	9	75	34	-15	-15	-15	-15	19	19	-38	-2	6	20	-10	-8	-16	-20	-14	20	302	0.4%		
24-Jul	16	16	18	0	-8	2	-4	4	0	-2	-14	-4	10	-2	-10	-4	3	2	0	4	20	20	12	25	104	0.1%		
25-Jul	32	14	26	-2	22	16	6	0	-13	-13	-13	-13	4	-4	8	0	0	16	4	56	60	38	30	274	0.4%			
26-Jul	18	10	0	4	6	4	2	2	0	0	0	0	-12	-2	-14	-4	-26	2	12	4	0	6	8	0	20	0.0%		
27-Jul	-6	-4	10	2	-4	-4	6	-4	0	2	2	-2	0	-18	0	8	2	0	4	26	18	12	4	16	70	0.1%		
28-Jul	12	0	2	2	4	2	0	0	1	1	1	1	0	2	2	4	0	10	2	6	8	16	0	14	90	0.1%		
29-Jul	26	12	4	0	0	0	0	0	1	1	1	1	14	0	0	0	0	4	14	34	38	4	10	6	170	0.2%		
30-Jul	0	8	0	0	0	0	0	0	1	1	1	1	0	2	2	0	0	8	26	22	12	46	6	0	136	0.2%		
31-Jul	0	0	0	0	0	0	0	0	0	0	0	0	-2	-2	-8	-2	-2	2	-4	6	4	2	-4	0	0.0%			
1-Aug	2	2	0	0	2	2	-2	-2	-2	-2	-2	-2	0	0	-3	-1	-4	0	2	-2	6	3	3	2	0.0%			
2-Aug	1	1	0	0	1	1	1	-2	-4	-4	-4	-4	0	0	-3	0	0	2	2	0	6	2	4	0	0.0%			
3-Aug	0	0	0	0	0	2	0	0	-2	-4	-4	-4	0	0	0	-4	2	0	8	4	0	6	0	0	0.0%			
4-Aug	6	0	0	0	0	0	0	4	-18	-10	0	0	0	0	0	6	2	2	6	4	0	0	0	2	0.0%			
5-Aug	0	0	0	0	0	0	0	0	-3	-3	-3	-3	0	0	0	4	1	1	3	3	1	0	1	0	2.0%			
6-Aug	0	1	0	0	0	0	0	0	-3	-3	-3	-3	0	0	0	4	1	0	0	2	2	0	2	0	0.0%			
7-Aug	0	2	0	0	0	0	0	0	-1	-1	-1	-1	-1	0	0	0	2	0	0	0	2	0	0	0	2.0%			
8-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0.0%			
9-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%			
10-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%			
11-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%			
12-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%			
Total	5,179	5,870	5,182	992	625	1,073	1,853	818	238	242	382	254	274	5														

Table 4. Expanded daily hourly king salmon migration past the North River counting tower, Norton Sound, 2000.

Date	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Total	% of Total	
17-Jun																		0	0	0	0	0	0	0	0	0	0.0%
18-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2%	
19-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
20-Jun	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	1.1%	
21-Jun	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0.4%	
22-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0.4%	
23-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0.8%	
24-Jun	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2%	
25-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	1.1%	
26-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2%	
27-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0.6%	
28-Jun	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2	-0.2%	
29-Jun	0	0	14	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	2.3%	
30-Jun	4	14	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	78	7.5%	
1-Jul	0	2	14	6	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	6	6	4	2	12	56	5.4%
2-Jul	8	8	8	2	0	2	0	0	0	0	0	0	0	0	0	0	0	8	8	6	0	0	0	0	50	4.8%	
3-Jul	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	12	20	16	10	0	2	0	6	70	6.7%
4-Jul	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20	4	2	4	4	2	40	3.8%
5-Jul	0	0	2	2	2	0	4	2	0	0	0	0	0	0	0	0	0	0	0	4	0	2	0	4	2	24	2.3%
6-Jul	0	12	4	2	0	0	-2	0	1	1	1	0	0	0	0	0	0	0	0	0	8	8	0	0	40	3.8%	
7-Jul	8	6	10	0	4	4	12	4	4	0	0	0	0	0	2	6	0	10	0	0	0	4	4	4	0	82	7.8%
8-Jul	0	0	2	4	2	4	2	6	1	1	1	1	0	10	2	0	0	0	6	2	0	0	0	0	8	52	5.0%
9-Jul	4	4	8	18	4	4	2	4	3	3	3	3	0	20	6	10	6	8	22	28	34	18	16	0	0	228	21.8%
10-Jul	8	6	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	28	2.7%	
11-Jul	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0.8%	
12-Jul	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0.8%	
13-Jul	8	0	4	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	1.5%	
14-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
15-Jul	2	8	12	8	0	0	0	0	0	0	-2	0	-6	0	14	4	6	-2	0	1	0	0	0	0	0	45	4.3%
16-Jul	1	3	6	4	0	0	0	0	0	0	0	0	-3	0	7	2	3	-1	0	1	0	0	0	0	0	23	2.2%
17-Jul	1	3	6	4	0	0	0	0	0	0	0	0	-3	0	7	2	3	-1	0	1	0	0	0	0	0	23	2.2%
18-Jul	1	3	6	4	0	0	0	0	0	0	0	0	-3	0	7	2	3	-1	0	1	0	0	0	0	0	23	2.2%
19-Jul	1	3	6	4	0	0	0	0	0	0	0	0	-3	0	7	2	3	-1	0	1	0	0	0	0	0	23	2.2%
20-Jul	1	3	6	4	0	0	0	0	0	0	0	0	0	0	7	2	3	-1	0	1	0	0	0	0	0	26	2.5%
21-Jul	1	3	6	4	0	0	0	0	0	0	0	0	-3	0	7	2	3	-1	0	1	0	0	0	0	0	23	2.2%
22-Jul	1	3	6	4	0	0	0	0	0	0	0	0	-3	0	7	2	3	-1	0	1	0	0	0	0	0	23	2.2%
23-Jul	1	3	6	4	0	0	0	0	0	0	0	0	-3	0	0	0	0	0	0	2	0	0	0	0	0	13	1.2%
24-Jul	0	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	1	0	0	2	0.2%
25-Jul	2	0	2	2	0	0	-2	0	0	0	0	0	0	0	0	0	2	-2	0	1	0	2	0	0	0	7	0.7%
26-Jul	0	-2	-2	0	0	0	0	0	0	-1	-1	-1	-1	0	0	0	0	0	0	0	0	0	0	0	-8	-0.8%	
27-Jul	-4	-2	-6	0	0	0	2	0	0	-2	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	-14	-1.3%	
28-Jul	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2%
29-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
30-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
31-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2	0	0	0	-2	-4	-10	-1.0%	
1-Aug	0	0	0	0	0	0	-4	0	0	0	0	0	0	0	0	0	-1	0	-1	0	0	0	-1	-2	-9	-0.9%	
2-Aug	0	0	0	0	0	0	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2	-0.2%	
3-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
4-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
5-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
6-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
7-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
8-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
9-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
10-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
11-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
12-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2%
Total	52	86	130	86	16	24	16	12	8	4	0	4	-25	32	75	36	49	37	81	71	56	57	85	54	1,046	100%	
	5.0%	8.2%	12.4%	8.2%	1.5%	2.3%	1.5%	1.1%	0.8%	0.4%	0.0%	0.4%	-2.4%	3.1%	7.2%	3.4%	4.7%	3.5%	7.7%	6.8%	5.4%	5.4%	8.1%	5.2%	100.0%		

Table 5. Expanded daily hourly coho salmon migration past the North River counting tower, Norton Sound, 2000.

Date	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Total	% of Total	
17-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
18-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
19-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
20-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
21-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
22-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
23-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
24-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
25-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
26-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
27-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
28-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
29-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
30-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
1-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
2-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
3-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
4-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
5-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
6-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
7-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
8-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
9-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
10-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
11-Jul	6	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2%	
12-Jul	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0.1%	
13-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
14-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
15-Jul	0	0	0	0	0	0	0	2	0	0	0	0	0	0	4	4	2	2	0	0	2	0	-1	0	1	0.2%	
16-Jul	4	3	4	0	4	1	1	3	0	0	0	0	2	3	2	1	3	0	0	2	0	-1	0	1	33	0.5%	
17-Jul	4	3	4	0	4	1	1	3	0	0	0	0	2	3	2	1	3	0	0	2	0	-1	0	1	33	0.5%	
18-Jul	4	3	4	0	4	1	1	3	0	0	0	0	2	3	2	1	3	0	0	2	0	-1	0	1	33	0.5%	
19-Jul	4	3	4	0	4	1	1	3	0	0	0	0	2	3	2	1	3	0	0	2	0	-1	0	1	33	0.5%	
20-Jul	4	3	4	0	4	1	1	3	0	0	0	0	2	3	2	1	3	0	0	2	0	-1	0	1	33	0.5%	
21-Jul	4	3	4	0	4	1	1	3	0	0	0	0	2	3	2	1	3	0	0	2	0	-1	0	1	33	0.5%	
22-Jul	4	3	4	0	4	1	1	3	0	0	0	0	2	3	2	1	3	0	0	2	0	-1	0	1	33	0.5%	
23-Jul	4	3	4	0	4	1	1	3	1	1	1	1	2	3	0	0	4	0	0	4	0	-2	0	2	37	0.5%	
24-Jul	8	6	8	0	8	2	2	4	2	0	0	4	4	2	4	2	6	16	2	25	37	13	7	164	2.4%		
25-Jul	22	16	10	2	0	8	4	4	2	2	2	2	0	4	2	2	0	0	4	6	2	50	76	26	12	256	3.7%
26-Jul	26	10	6	4	0	4	0	2	1	1	1	1	0	2	0	2	2	6	6	2	6	4	0	10	96	1.4%	
27-Jul	4	4	2	2	2	0	-2	0	0	2	0	0	0	-2	0	0	2	0	0	2	0	10	8	4	0	44	0.6%
28-Jul	-6	12	0	4	2	0	0	0	3	3	3	3	2	6	8	2	4	20	6	28	44	56	0	26	226	3.2%	
29-Jul	44	34	16	10	2	4	0	0	2	2	2	2	0	0	6	2	24	32	40	28	10	40	16	16	332	4.8%	
30-Jul	0	8	0	0	0	2	0	0	2	2	2	2	14	4	0	2	0	38	66	94	62	158	4	0	460	6.6%	
31-Jul	4	10	0	0	0	0	0	0	0	4	0	0	7	6	4	0	4	14	20	4	20	64	26	20	207	3.0%	
1-Aug	98	32	8	0	2	2	0	0	1	1	1	1	7	5	5	1	2	7	13	4	12	39	14	13	268	3.9%	
2-Aug	48	21	5	3	3	2	5	0	1	1	1	1	7	5	5	1	0	0	6	4	4	14	2	6	145	2.1%	
3-Aug	-2	10	2	6	4	2	10	0	5	5	5	5	0	4	6	2	4	14	64	52	94	15	24	16	348	5.0%	
4-Aug	150	44	8	8	2	0	24	30	-4	18	18	0	6	-8	18	44	10	40	18	28	30	18	70	14	586	8.4%	
5-Aug	0	0	0	0	0	0	0	0	7	7	7	7	24	4	35	58	29	70	70	118	56	44	88	56	725	10.4%	
6-Aug	14	4	2	1	0	0	20	8	6	6	6	6	24	4	35	58	29	70	70	118	56	44	88	56	860	12.4%	
7-Aug	28	8	4	2	0	0	40	16	1	1	1	1	42	16	52	72	48	168	58	82	42	28	84	66	369	5.3%	
8-Aug	58	12	4	0	0	0	6	2	0	0	0	0	21	7	27	38	25	83	30	-2	12	4	14	28	34	0.1%	
9-Aug	4	8	0	0	0	-2	-4	-12	0	0	0	0	0	0	-2	2	4	2	-2	2	-2	0	0	10	8	0	0.1%
10-Aug	34	18	-6	6	16	0	-1	2	1	1	1	1	36	38	16	82	100	4	90	38	14	32	32	68	623	9.0%	
11-Aug	26	6	2	2	0	6	2	12	0	0	0	0	44	10	24	20	28	4	30	34	16	14	26	30	336	4.8%	
12-Aug	6	8	0	2	2	4	0	6	10	4	8	14												64	0.9%		
Total	604	299	109	56	75	42	114	100	41	61	59	51	254	133	267	401	340	563	587	619	548	669	518	449	6,959	100%	
	8.7%	4.3%	1.6%	0.8%	1.1%	0.6%	1.6%	1.4%	0.6%	0.9%	0.8%	0.7%	3.6%	1.9%	3.8%	5.8%	4.9%	8.1%	8.4%	8.9%	7.9%	9.6%	7.4%	6.5%	100.0%		

Table 6. Reported hourly chum salmon observations at the North River counting tower, Norton Sound, 2000.

Date	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Total	% of Total			
17-Jun																		0	0	0	0	0	0	0	2	2	0.1%		
18-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%			
19-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%			
20-Jun	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	20	0.5%			
21-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0.1%			
22-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	4	0.1%			
23-Jun	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52	1.4%			
24-Jun	4	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	0.3%			
25-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	0.9%			
26-Jun	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	18	14	2	0	20	0.5%			
27-Jun	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	14	0.4%			
28-Jun	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0.1%			
29-Jun	0	2	62	-4	0	10	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	72	1.9%			
30-Jun	6	20	34	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	48	132	3.5%				
1-Jul	8	14	30	0	0	2	0	0	0	0	0	0	0	0	0	6	0	22	14	18	4	18	28	164	4.3%				
2-Jul	4	28	22	4	0	4	0	0	0	0	0	0	0	0	0	0	2	0	0	20	4	6	0	0	94	2.5%			
3-Jul	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	28	62	24	8	0	0	6	146	3.8%		
4-Jul	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	96	38	2	80	4	34	256	6.7%			
5-Jul	12	20	4	4	0	0	10	0	0	0	0	0	0	0	0	4	2	0	28	6	2	0	0	0	92	2.4%			
6-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0.8%			
7-Jul	56	168	108	38	6	14	10	0	2	0	0	0	0	0	0	8	2	0	4	28	6	4	0	0	8	462	12.2%		
8-Jul	6	0	8	6	4	10	6	4	0	0	0	0	0	0	0	0	0	0	2	10	0	6	0	2	4	68	1.8%		
9-Jul	10	28	10	6	2	12	12	6	0	0	0	0	0	0	0	18	36	94	92	60	62	68	28	16	14	14	588	15.5%	
10-Jul	24	12	6	12	0	6	10	16	0	0	0	0	0	0	0	6	0	0	0	4	2	12	0	36	8	154	4.1%		
11-Jul	6	56	20	4	6	10	12	4	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	18	8	150	3.9%		
12-Jul	30	28	20	26	14	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	70	212	5.6%		
13-Jul	64	66	42	26	10	6	8	0	0	0	0	0	0	0	0	0	0	4	0	0	2	4	2	6	10	250	6.6%		
14-Jul	0	2	4	2	0	2	0	6	0	0	0	0	0	0	0	-4	0	0	4	0	0	0	2	0	0	18	0.5%		
15-Jul	12	48	56	22	10	14	10	6	0	0	0	0	0	0	0	12	2	40	20	24	4	0	0	0	0	280	7.4%		
16-Jul																									0	0.0%			
17-Jul																									0	0.0%			
18-Jul																									0	0.0%			
19-Jul																									0	0.0%			
20-Jul																									0	0.0%			
21-Jul																									0	0.0%			
22-Jul																									0	0.0%			
23-Jul																									0	0.0%			
24-Jul	0	-4	0	-4	2	-2	-2	-4	4	-4	-4	4	0	0	0	0	-4	0	2	0	2	0	2	-4	2	0	0.0%		
25-Jul	10	8	38	8	0	6	0	2	0	0	0	0	0	0	0	2	0	-2	2	-2	2	4	0	50	32	20	14	194	5.1%
26-Jul	24	10	2	2	0	0	-6	-2	0	0	0	0	0	0	0	0	0	-4	0	4	-2	2	6	0	-2	4	-2	36	0.9%
27-Jul	2	0	4	-4	0	-6	-2	0	0	0	-2	0	0	0	0	0	2	2	0	0	0	0	0	0	0	-4	-0.1%		
28-Jul	0	4	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	0.4%		
29-Jul	0	8	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2	4	2	2	0	52	1.4%		
30-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	2	12	20	0	0	0	0	40	1.1%		
31-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	-8	-4	20	24	12	46	1.2%	
1-Aug	42	18	-2	4	-8	-24	-10	-14	0	0	0	0	0	0	0	0	0	0	2	0	2	2	12	4	2	0	6	0.2%	
2-Aug	2	18	4	12	8	2	0	2	0	0	0	0	0	0	0	0	0	0	0	2	14	26	4	-8	-4	-4	72	1.9%	
3-Aug	40	14	0	-2	4	-16	-20	-24	-18	-16	2	-14	0	0	0	0	0	0	0	0	0	0	0	0	0	-50	-1.3%		
4-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
5-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%	
6-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.1%	
7-Aug	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0.2%	
8-Aug	4	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	26	0.7%	
9-Aug	-6	4	-8	2	-10	4	-6	-4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-52	-1.4%	
10-Aug	-2	2	-6	2	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	1.1%	
11-Aug	10	0	-2	-6	-2	0	4	-6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	0.8%	
12-Aug	0	0	0	0	0	-2	0	0	0	0	0	-4	0	0	0	-4	0	0	0	0	0	0	0	0	0	-10	-0.3%		
Total	372	588	472	164	52	76	36	-12	-16	-20	-2	-16	26	44	88	136	170	172	274	232	216	236	246	268	3,802	100%			
	9.8%	15.5%	12.4%	4.3%	1.4%	2.0%	0.9%	-0.3%	-0.4%	-0.5%	-0.1%	-0.4%	0.7%	1.2%	2.3%	3.6%	4.5%	4.5%	7.2%	6.1%	5.7%	6.2%	6.5%	7.0%	100.0%				

Table 7. Reported hourly pink salmon observations at the North River counting tower, Norton Sound, 2000.

Outlined areas indicate hours not counted

Date	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Total	% of Total		
17-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
18-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
19-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
20-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
21-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
22-Jun	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	6	0.0%		
23-Jun	50	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	6	0	0	0	0	804	294	1,158	1.9%		
24-Jun	140	0	0	0	0	0	0	2	0	0	0	-2	0	-2	0	0	0	0	0	-2	0	8	4	148	0.2%			
25-Jun	24	106	4	6	0	0	0	0	0	0	0	0	0	4	42	0	306	1090	44	528	636	228	3,022	4.9%				
26-Jun	364	296	16	4	0	0	0	0	0	0	0	0	0	4	2	6	0	0	0	0	0	80	56	156	984	1.6%		
27-Jun	28	4	26	4	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	156	2	1400	12	1,638	2.6%
28-Jun	70	8	4	6	6	0	8	0	0	0	0	0	0	2	4	0	0	0	0	2	0	0	10	26	146	0.2%		
29-Jun	14	132	1072	-90	2	274	4	0	10	6	6	4	0	-2	0	0	6	10	0	44	2	2	-8	118	1,606	2.6%		
30-Jun	224	302	188	56	16	74	6	0	0	0	0	0	0	0	0	0	28	6	6	0	26	632	1460	3,024	4.9%			
1-Jul	636	430	514	246	40	86	60	4	0	0	0	0	0	40	8	60	758	1010	1116	380	1492	2672	9,552	15.4%				
2-Jul	280	620	770	62	70	132	58	12	12	102	96	0	0	2522	1310	1172	584	194	1062	0	9,058	14.6%						
3-Jul	446	550	44	4	0	6	4	0	0	0	0	0	0	1092	1946	710	392	434	26	200	60	1900	7,814	12.6%				
4-Jul	8	12	0	22	2	8	0	0	0	0	0	0	0	24	8	0	36	364	162	124	908	214	456	2,348	3.8%			
5-Jul	172	438	70	20	26	22	200	0	0	0	2	16	4	22	0	376	70	56	46	10	1,550	2.5%						
6-Jul	72	112	30	8	16	2	8	0	8	0	0	16	0	0	0	4	4	310	404	54	1,048	1.7%						
7-Jul	256	696	364	114	70	32	284	164	24	10	124	16	10	26	272	48	38	150	922	212	124	66	84	280	4,386	7.1%		
8-Jul	104	4	114	72	40	50	76	106	28	44	22	34	904	36	94	86	66	174	2,054	3.3%								
9-Jul	270	170	158	66	54	62	90	56	14	148	88	164	322	298	552	524	46	48	80	160	3,370	5.4%						
10-Jul	176	80	38	28	14	52	38	50	4	22	-4	6	14	6	6	14	60	90	228	106	1,028	1.7%						
11-Jul	86	150	108	24	32	56	104	24	36	36	0	0	0	0	8	18	0	0	0	80	282	408	1,452	2.3%				
12-Jul	506	256	144	96	36	2	26	0	0	0	0	0	0	0	0	0	12	4	0	0	24	28	40	438	1,612	2.6%		
13-Jul	658	468	608	26	28	52	98	12	16	18	4	4	4	4	0	10	14	4	124	136	2,288	3.7%						
14-Jul	0	10	8	12	2	46	20	54	0	0	12	10	42	140	104	48	68	56	46	0	678	0	1,1%					
15-Jul	84	180	154	40	36	16	154	64	-12	2	40	228	98	114	136	0	0	0	0	0	0	0	0	1,418	2.3%			
16-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
17-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
18-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
19-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
20-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
21-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
22-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
23-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.1%		
24-Jul	16	16	18	0	-8	2	-4	4	0	-2	-14	-4	10	-2	-10	-4	0	2	0	4	24	0	0	0	0.0%			
25-Jul	32	14	26	-2	22	16	6	0	4	-4	8	0	0	0	16	0	56	60	38	30	322	0	0.5%					
26-Jul	18	10	0	4	6	4	2	2	-12	-2	-14	-4	-26	2	12	4	0	6	8	0	20	0	0.0%					
27-Jul	-6	-4	10	2	-4	-4	6	-4	0	2	2	-2	0	-18	0	8	2	0	4	26	18	12	4	16	70	0.1%		
28-Jul	12	0	2	2	4	2	0	0	0	2	2	4	0	10	2	6	8	16	0	14	86	0.1%						
29-Jul	26	12	4	0	0	0	0	0	0	14	0	0	0	4	14	34	38	4	10	6	166	0.3%						
30-Jul	0	8	0	0	0	0	0	0	0	0	2	2	0	0	8	26	22	12	46	6	0	132	0.2%					
31-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-2	-8	2	4	6	4	2	-4	0.0%			
1-Aug	2	2	0	0	0	2	2	-2	0	0	0	0	0	0	0	0	0	2	0	6	0	0	0	0	0.0%			
2-Aug	0	0	0	0	2	0	0	-2	0	0	0	0	0	0	0	0	0	2	0	6	2	4	16	0	0.0%			
3-Aug	0	0	0	0	2	0	0	-18	-10	0	0	0	0	0	0	0	2	6	4	0	0	0	2	0.0%				
4-Aug	6	0	0	0	0	0	0	4	-18	-10	0	0	0	0	0	0	6	2	6	4	0	0	0	0	0.0%			
5-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%			
6-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%			
7-Aug	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%			
8-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%			
9-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%			
10-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%			
11-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%			
12-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%			
Total	4,778	5,084	4,494	832	512	1,000	1,252	548	40	44	158	30	110	338	708	1,560	2,566	4,224	5,702	5,246	2,670	3,286	7,828	9,184	62,194	100%		
	7.7%	8.2%	7.2%	1.3%	0.8%	1.6%	2.0%	0.9%	0.1%	0.1%	0.3%	0.0%	0.2%	0.5%	1.1%	2.5%	4.1%	6.8%	9.2%	8.4%	4.3%	5.3%	12.6%	14.8%	100.0%			

Table 8. Reported hourly king salmon observations at the North River counting tower, Norton Sound, 2000.

Date	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Total	% of Total		
17-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
18-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2%		
19-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
20-Jun	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.4%		
21-Jun	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0.5%		
22-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0.5%		
23-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0.9%		
24-Jun	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2%		
25-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	1.4%		
26-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2%		
27-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0.7%		
28-Jun	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.2%		
29-Jun	0	0	14	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	24	2.8%		
30-Jun	4	14	6	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	78	9.2%		
1-Jul	0	2	14	6	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	6	6	4	2	12	56	6.6%		
2-Jul	8	8	2	0	2	0	0	0	0	0	0	0	0	0	0	0	8	8	6	0	0	0	0	0	50	5.9%		
3-Jul	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	12	20	16	10	0	2	0	6	70	8.3%		
4-Jul	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	20	4	2	4	4	2	40	4.7%	
5-Jul	0	0	2	2	2	0	4	2	0	0	0	0	0	0	0	0	0	0	0	4	0	2	0	4	2	24	2.8%	
6-Jul	0	12	4	2	0	0	-2	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0	0	8	4.2%		
7-Jul	8	6	10	0	4	4	12	4	4	0	0	0	0	0	0	2	6	0	10	0	0	4	4	0	82	9.7%		
8-Jul	0	0	2	4	2	4	2	6	0	0	0	0	0	0	0	2	0	0	0	6	2	0	0	0	8	38	4.5%	
9-Jul	4	4	8	18	4	4	2	4	0	0	0	0	0	0	0	20	6	10	6	8	22	28	34	18	16	0	216	25.5%
10-Jul	8	6	4	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	2	28	3.3%		
11-Jul	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0.9%		
12-Jul	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	4	0.9%		
13-Jul	8	0	4	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	1.9%		
14-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
15-Jul	2	8	12	8	0	0	0	0	0	0	0	0	0	0	-6	0	14	4	6	-2	0	0	0	0	44	5.2%		
16-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
17-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
18-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
19-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
20-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
21-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
22-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2%		
23-Jul	0	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0		
24-Jul	0	2	2	0	0	0	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0		
25-Jul	0	-2	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0.7%		
26-Jul	0	-2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-4	-0.5%		
27-Jul	-4	-2	-6	0	0	0	0	2	0	0	-2	-2	0	0	0	0	0	0	0	0	0	0	0	0	-14	-1.7%		
28-Jul	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2%		
29-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
30-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
31-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-10	-1.2%		
1-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.5%		
2-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
3-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
4-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
5-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
6-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
7-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
8-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
9-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
10-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
11-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%		
12-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.2%		
Total	44	62	82	54	16	24	16	14	4	0	-4	0	-4	22	26	22	28	44	82	62	56	56	86	56	848	100.0%		
	5.2%	7.3%	9.7%	6.4%	1.9%	2.8%	1.9%	1.7%	0.5%	0.0%	-0.5%	0.0%	-0.5%	2.6%	3.1%	2.6%	3.3%	5.2%	9.7%	7.3%	6.6%	6.6%	10.1%	6.6%				

Table 9. Reported hourly coho salmon observations at the North River counting tower, Norton Sound, 2000.

Date	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	Total	% of Total
17-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
18-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
19-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
20-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
21-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
22-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
23-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
24-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
25-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
26-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
27-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
28-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
29-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
30-Jun	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
1-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
2-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
3-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
4-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
5-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
6-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
7-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
8-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
9-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
10-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
11-Jul	6	4	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	0.3%
12-Jul	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0.1%
13-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
14-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
15-Jul	0	0	0	0	0	0	0	2	0	0	0	0	0	0	4	4	2	2	0	0	0	0	0	0	14	0.3%
16-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
17-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
18-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
19-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
20-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
21-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
22-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
23-Jul	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2%
24-Jul	8	6	8	0	8	2	2	4	4	2	0	0	4	4	2	4	2	0	0	4	6	16	2	0	80	1.5%
25-Jul	22	16	10	2	0	8	4	4	4	0	0	0	0	0	4	6	50	76	26	12	246	4.6%				
26-Jul	26	10	6	4	0	4	0	2	0	0	0	0	0	0	0	2	6	2	6	4	0	10	92	1.7%		
27-Jul	4	4	2	2	2	0	-2	0	0	0	2	0	0	0	0	2	10	8	4	0	6	44	0.8%			
28-Jul	-6	12	0	4	2	0	0	0	2	6	8	2	4	20	6	28	44	56	0	26	214	4.0%				
29-Jul	44	34	16	10	2	4	0	0	0	0	6	2	24	32	40	28	10	40	16	16	324	6.1%				
30-Jul	0	8	0	0	0	2	0	0	0	14	4	0	2	0	38	66	94	62	158	4	0	452	8.5%			
31-Jul	4	10	0	0	0	0	0	0	0	6	4	0	4	14	20	4	20	64	26	20	200	3.8%				
1-Aug	98	32	8	0	2	2	0	0	0	0	0	0	0	0	0	0	6	4	4	14	2	6	142	2.7%		
2-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	36	0.7%
3-Aug	-2	10	2	6	4	2	10	0	0	0	4	6	2	4	14	64	52	94	16	24	16	328	6.2%			
4-Aug	150	44	8	8	2	0	24	30	-4	18	18	0	6	-8	18	44	10	40	18	28	30	18	70	14	586	11.0%
5-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
6-Aug	28	8	4	2	0	0	0	40	16	42	16	52	72	48	168	58	82	42	28	84	66	502	9.5%			
7-Aug	58	12	4	0	0	0	6	2	0	0	0	0	0	0	0	0	-2	12	4	14	28	138	2.6%			
8-Aug	4	8	0	0	0	-2	-4	-12	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0.2%		
9-Aug	34	18	-6	6	16	0	0	2	2	0	36	38	16	82	100	4	90	38	14	32	68	620	11.7%			
10-Aug	26	6	2	2	0	6	2	12	44	10	24	20	28	4	30	34	16	14	26	30	336	6.3%				
11-Aug	6	8	0	2	2	4	0	6	10	4	8	14	0	0	0	0	0	0	0	0	0	64	1.2%			
12-Aug	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Total	510	250	70	52	40	32	82	68	8	28	26	18	148	84	146	238	232	418	500	524	468	570	412	386	5,310	100%
	9.6%	4.7%	1.3%	1.0%	0.8%	0.6%	1.5%	1.3%	0.2%	0.5%	0.5%	0.3%	2.8%	1.6%	2.7%	4.5%	4.4%	7.9%	9.4%	9.9%	9.9%	8.8%	10.7%	7.8%	7.3%	100.0%

Table 10. North River counting tower climatological and stream observations, Norton Sound 2000

Date	Water Temp °F	Water Level "
17-Jun-00	45	39.0
18-Jun-00	45	39.0
19-Jun-00	45	29.0
20-Jun-00	45	29.0
21-Jun-00	45	24.0
22-Jun-00	54	24.0
23-Jun-00	59	24.0
24-Jun-00	58	22.0
25-Jun-00	59	21.5
26-Jun-00	59	19.5
27-Jun-00	58	21.5
28-Jun-00	59	21.5
29-Jun-00	55	21.5
30-Jun-00	59	21.5
1-Jul-00	60	20.0
2-Jul-00	56	20.5
3-Jul-00	58	19.5
4-Jul-00	59	20.0
5-Jul-00	60	19.5
6-Jul-00	62	19.5
7-Jul-00	60	20.0
8-Jul-00	57	20.0
9-Jul-00	58	31.5
10-Jul-00	57	31.5
11-Jul-00	60	28.0
12-Jul-00	31	24.5
13-Jul-00	59	21.0
14-Jul-00	59	21.5
15-Jul-00	52	39.5
16-Jul-00	47	51.0
17-Jul-00		
18-Jul-00		
19-Jul-00		
20-Jul-00		
21-Jul-00		
22-Jul-00		
23-Jul-00	51	29.0
24-Jul-00	50	36.5
25-Jul-00	50	40.0
26-Jul-00	50	37.0
27-Jul-00	45	40.0
28-Jul-00	44	35.0
29-Jul-00	52	20.0
30-Jul-00	49	20.0
31-Jul-00	48	18.5
1-Aug-00	50	24.0
2-Aug-00	49	22.0
3-Aug-00	50	22.0
4-Aug-00	50	32.0
5-Aug-00	49	33.0
6-Aug-00	49	31.0
7-Aug-00	50	30.0
8-Aug-00	50	29.0
9-Aug-00	46	28.0
10-Aug-00	46	31.0
11-Aug-00	46	32.0
12-Aug-00		60.0
13-Aug-00		60.0
14-Aug-00		60.0
15-Aug-00	43	51.0
16-Aug-00	46	44.0
17-Aug-00	46	44.0
18-Aug-00	44	49.0

Figure 1. Area location map of the North River counting tower project site, Norton Sound, 2000.

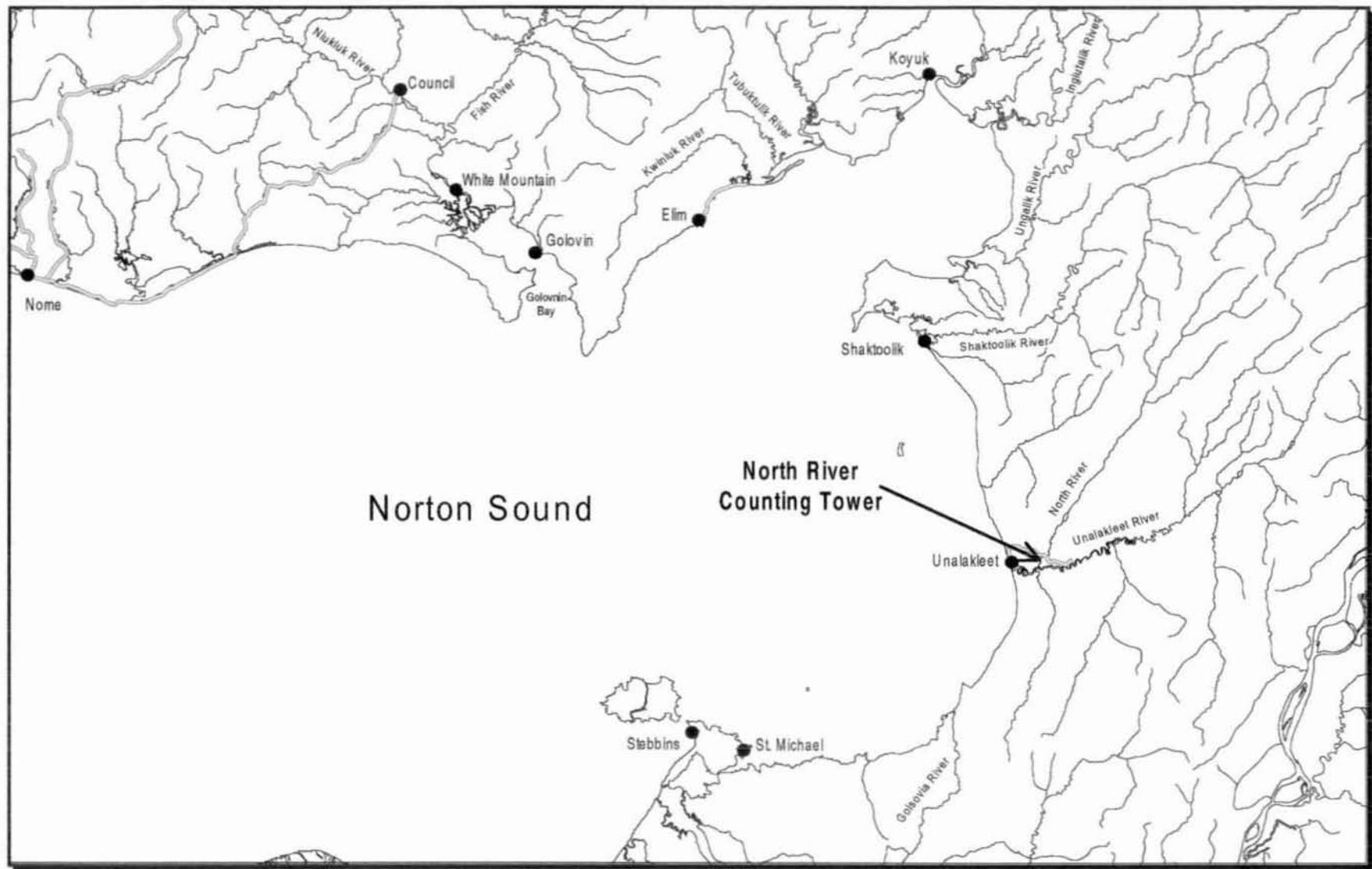


Figure 2. Cumulative migration of all salmon species, except pink salmon, past the North River counting tower, Norton Sound, 2000.

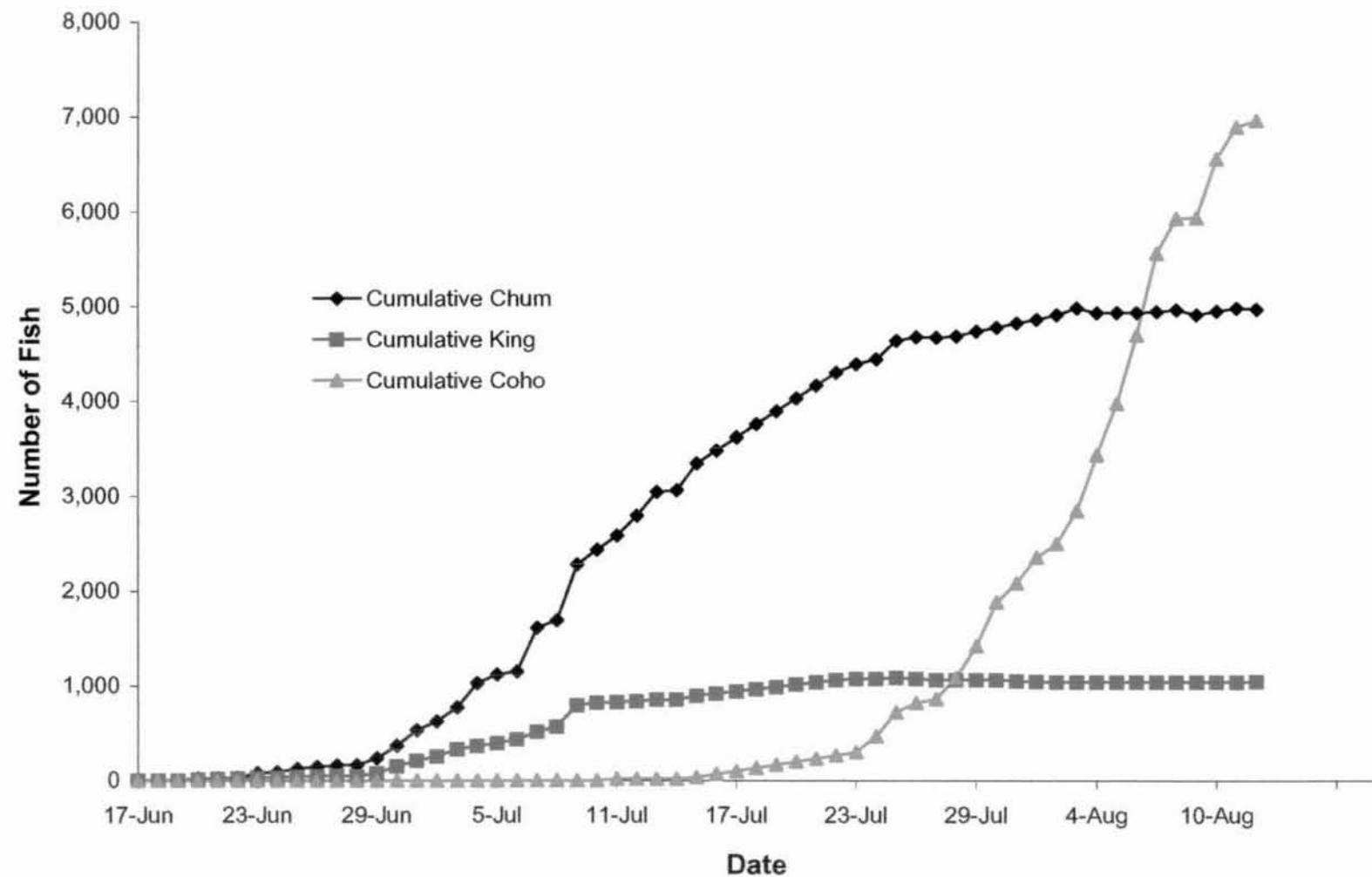


Figure 3. Daily chum salmon migration past the North River counting tower, Norton Sound, 2000.

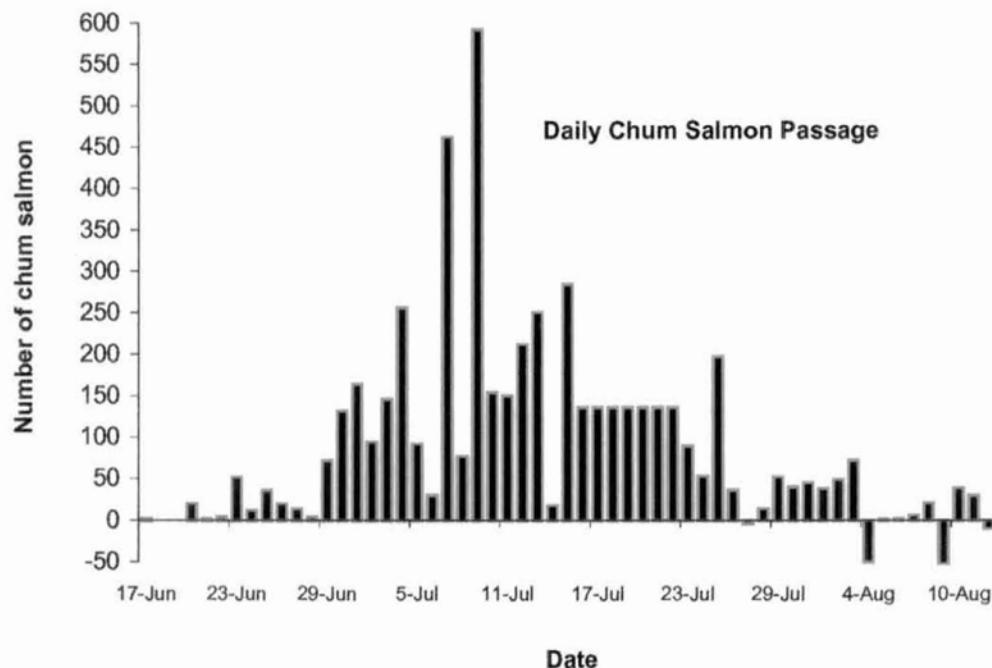


Figure 4. Cumulative chum salmon migration past the North River counting tower, Norton Sound, 2000.

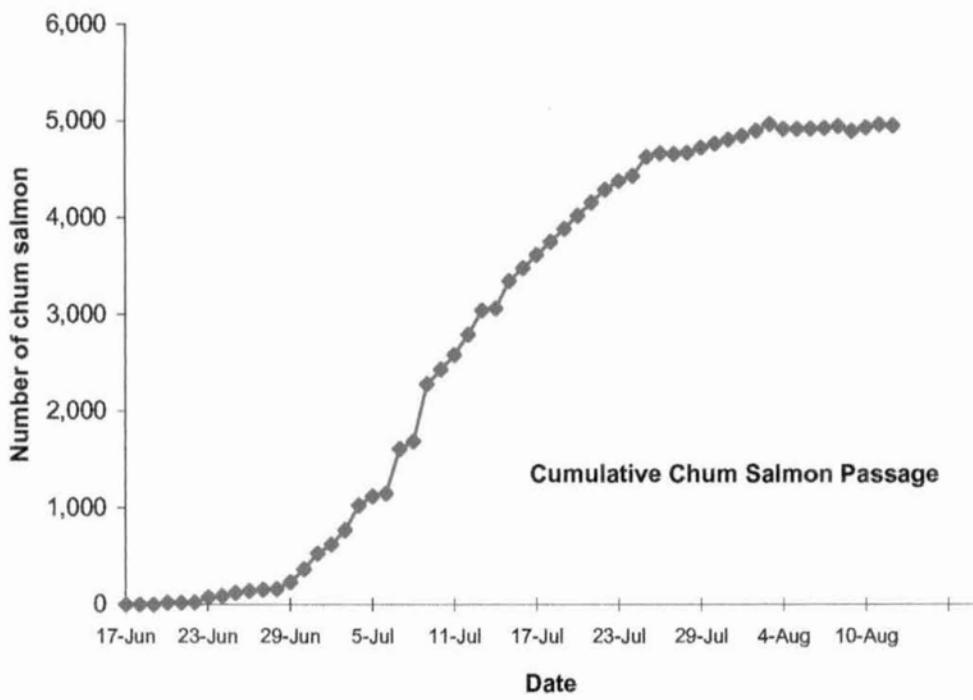


Figure 5. Daily pink salmon migration past the North River counting tower, Norton Sound, 2000.

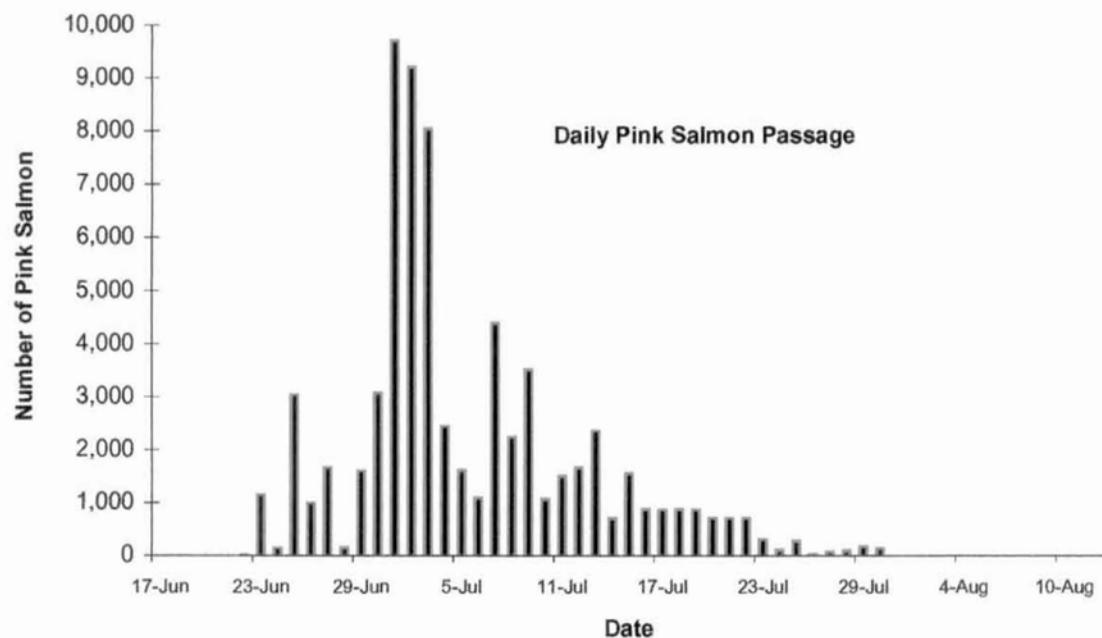


Figure 6. Cumulative pink salmon migration past the North River counting tower, Norton Sound, 2000.

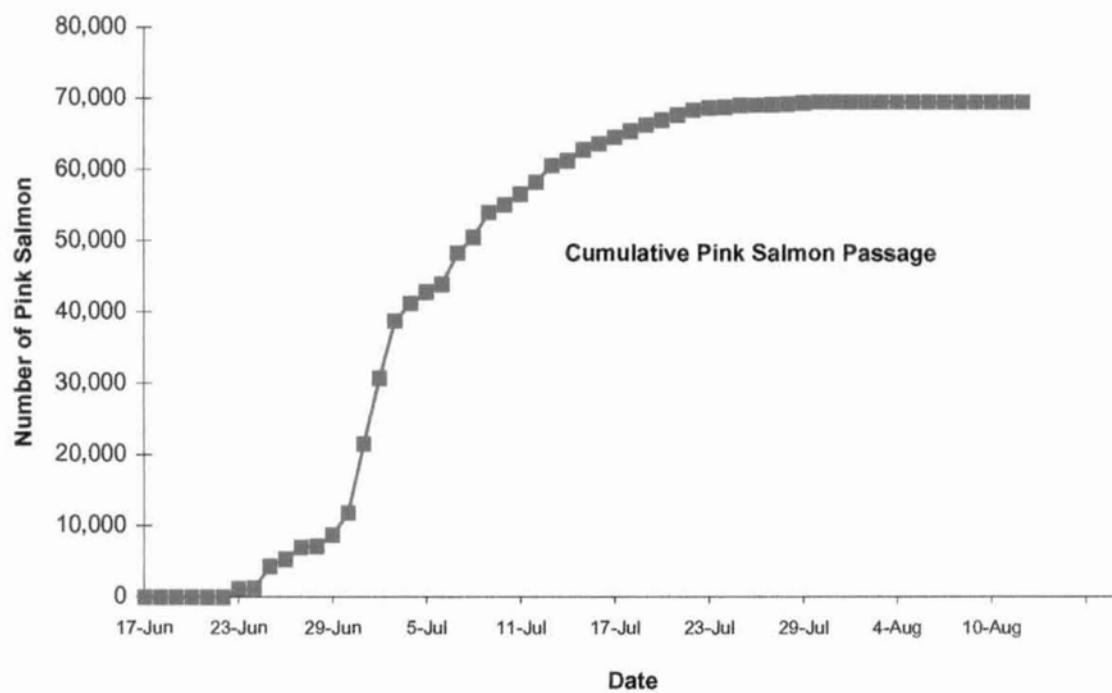


Figure 7. Daily king salmon migration past the North River counting tower, Norton Sound, 2000.

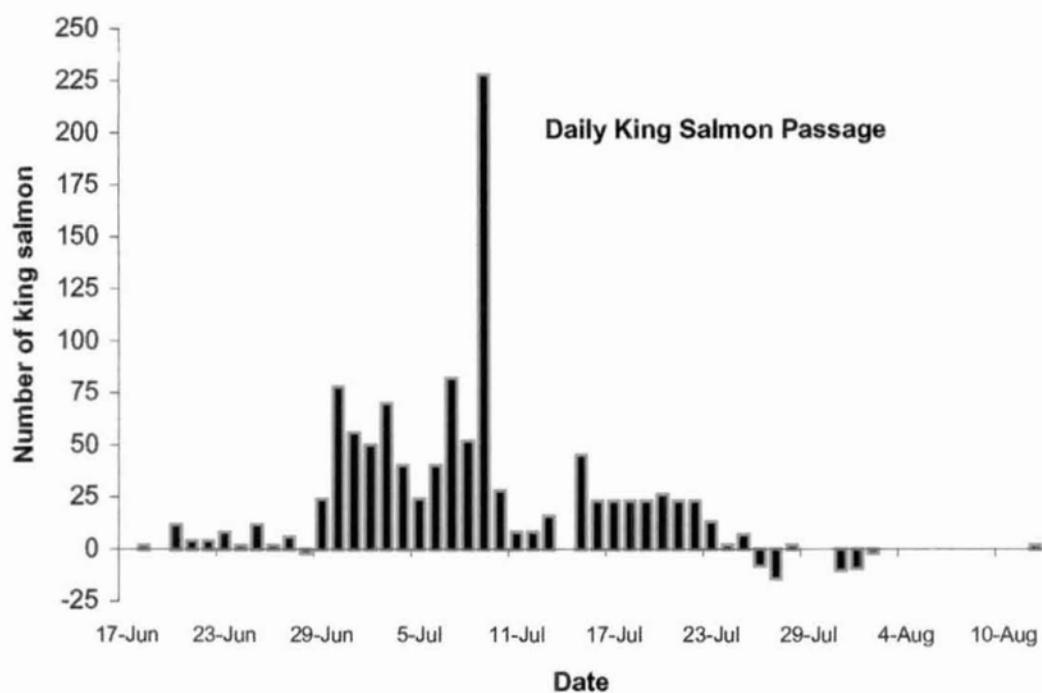


Figure 8. Cumulative king salmon migration past the North River counting tower, Norton Sound, 2000.

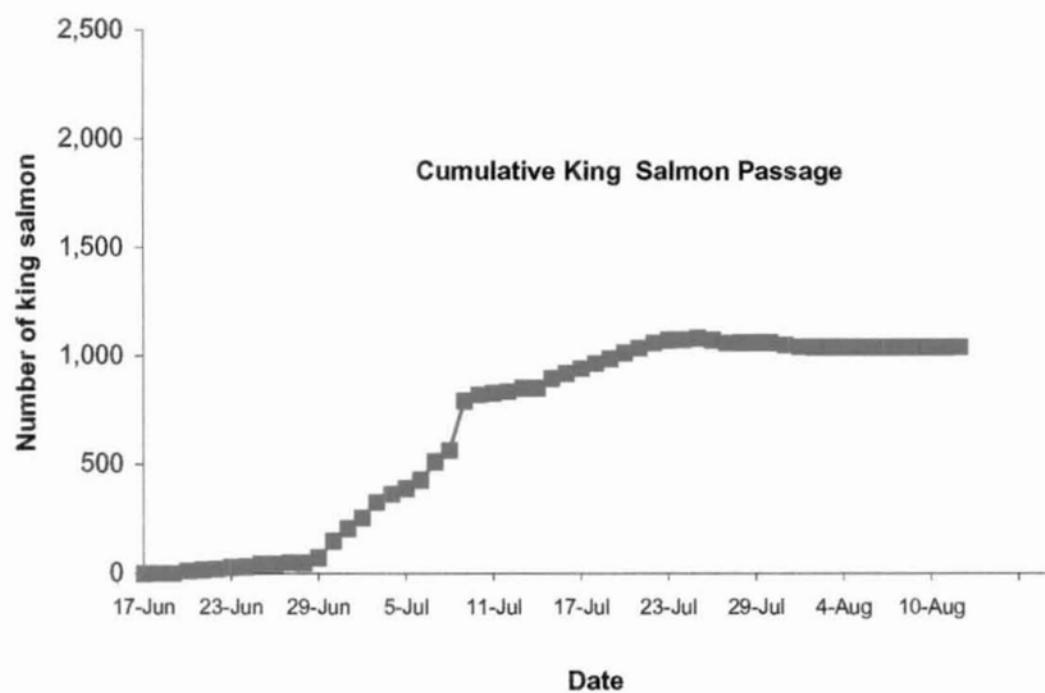


Figure 9. Daily coho salmon migration past the North River counting tower, Norton Sound, 2000.

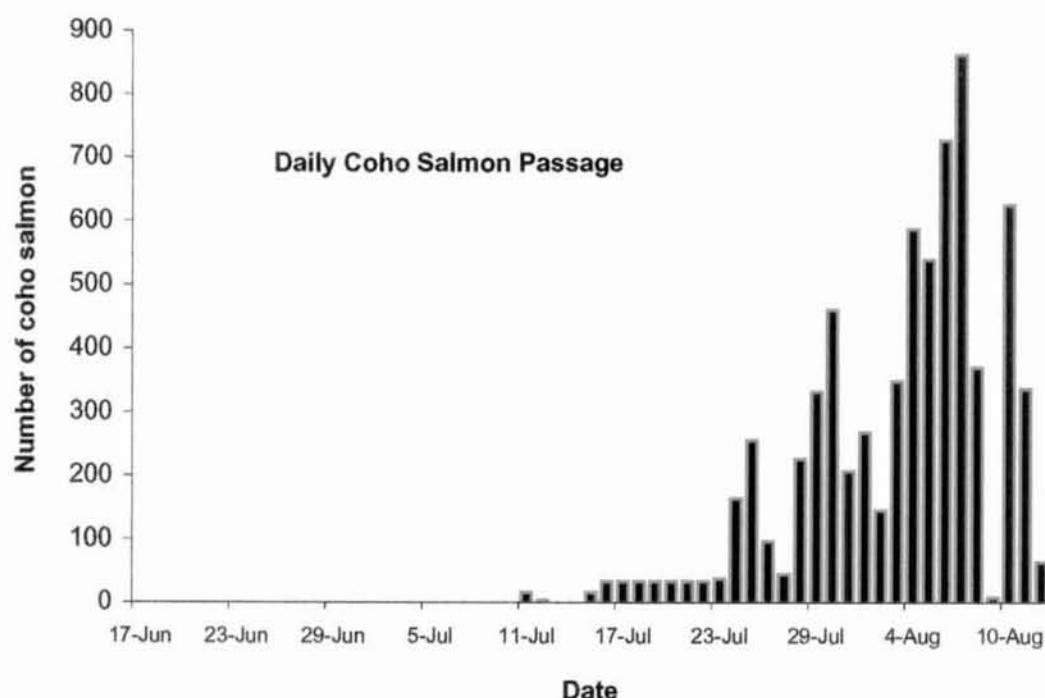


Figure 10. Cumulative coho salmon migration past the North River counting tower, Norton Sound, 2000.

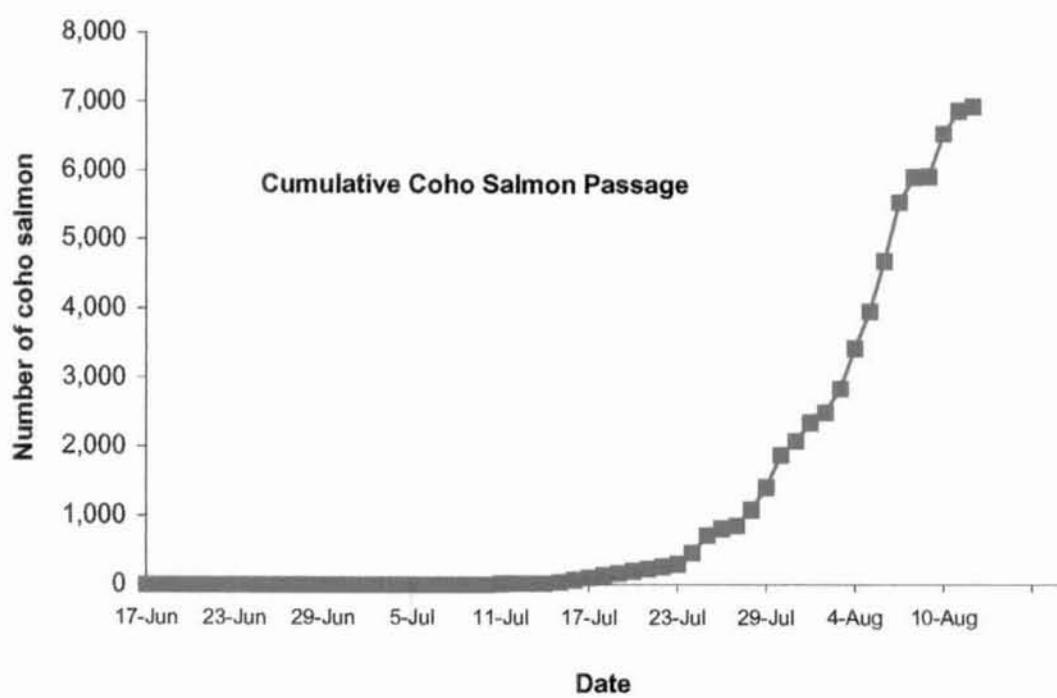


Figure 11. Diurnal pattern of chum salmon migration past the North River counting tower, Norton Sound, 2000.

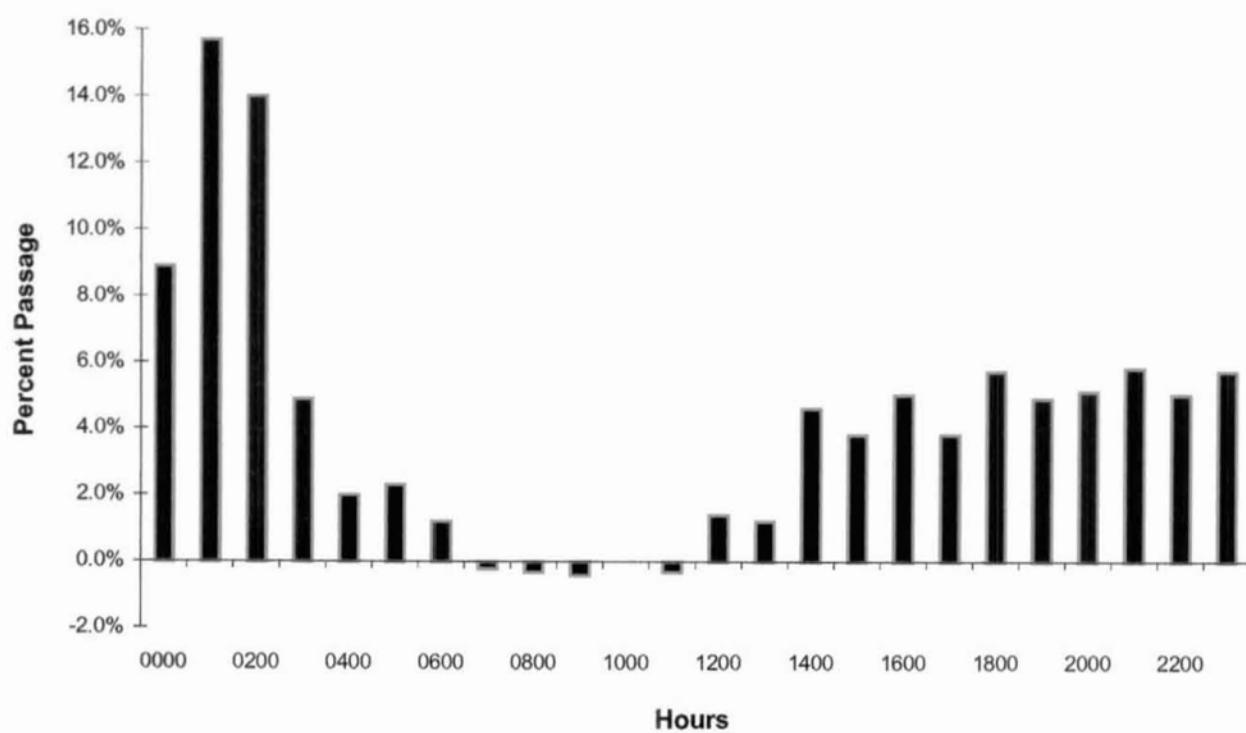


Figure 12. Diurnal pattern of pink salmon migration past the North River counting tower, Norton Sound, 2000.

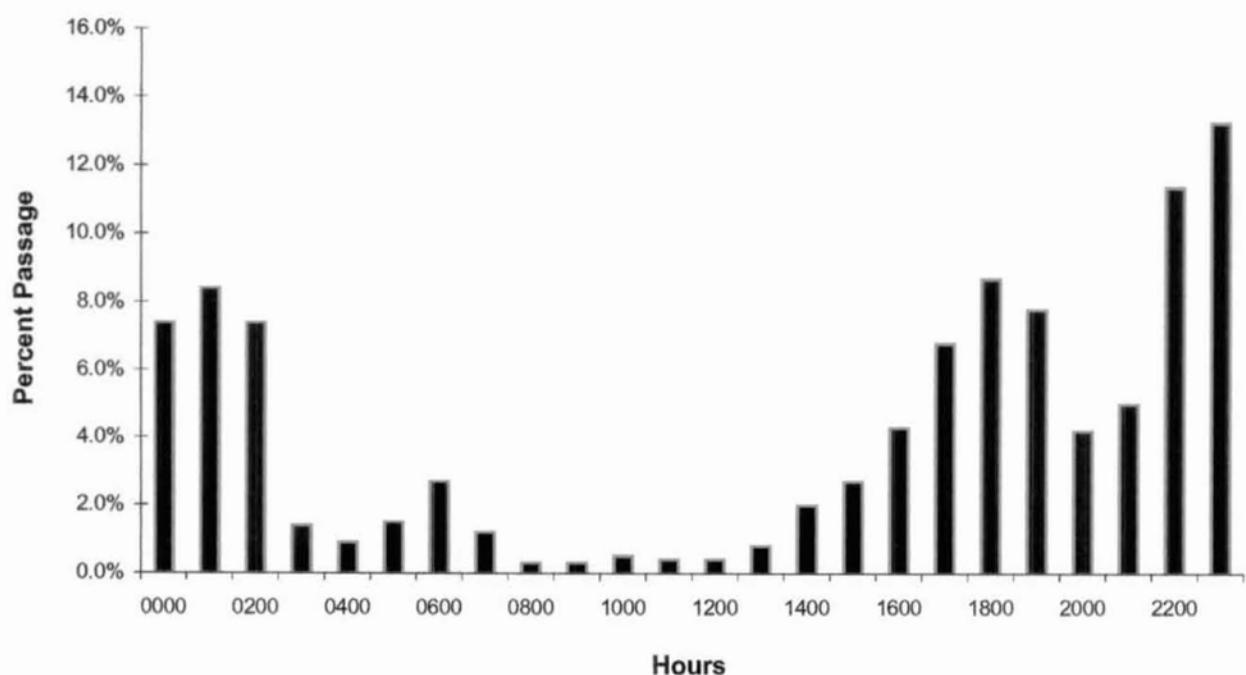


Figure 13. Diurnal pattern of king salmon migration past the North River counting tower, Norton Sound, 2000.

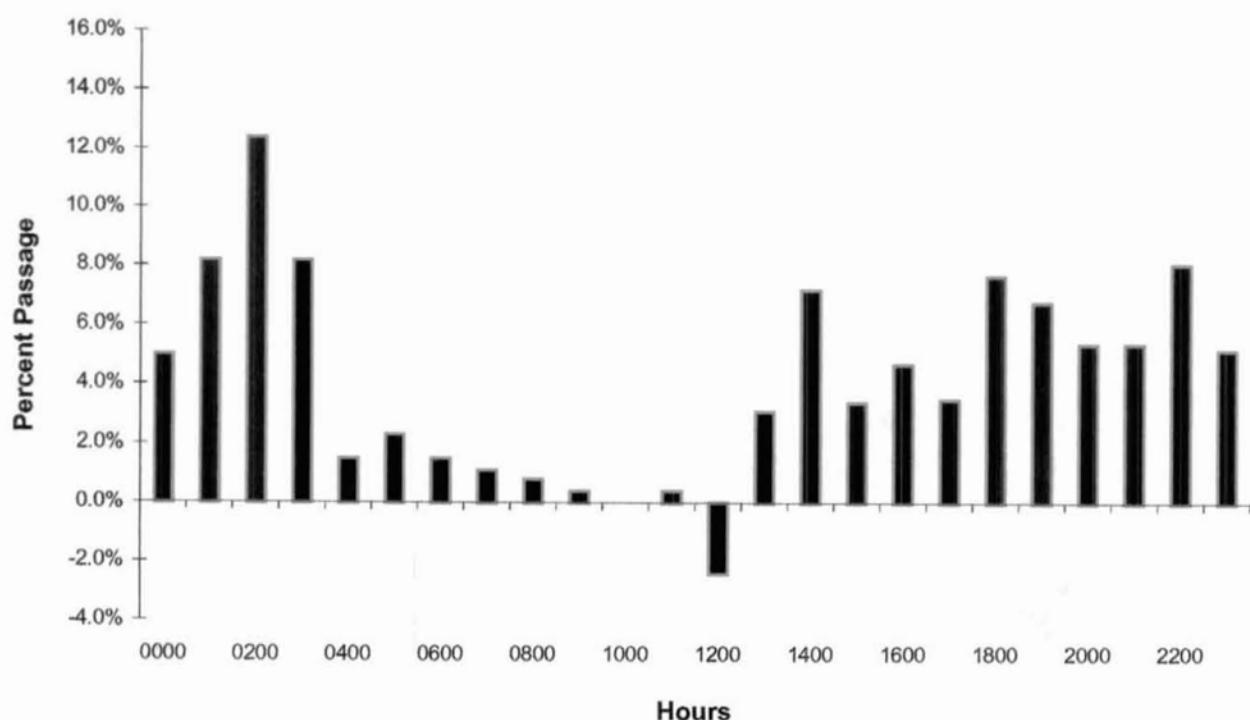
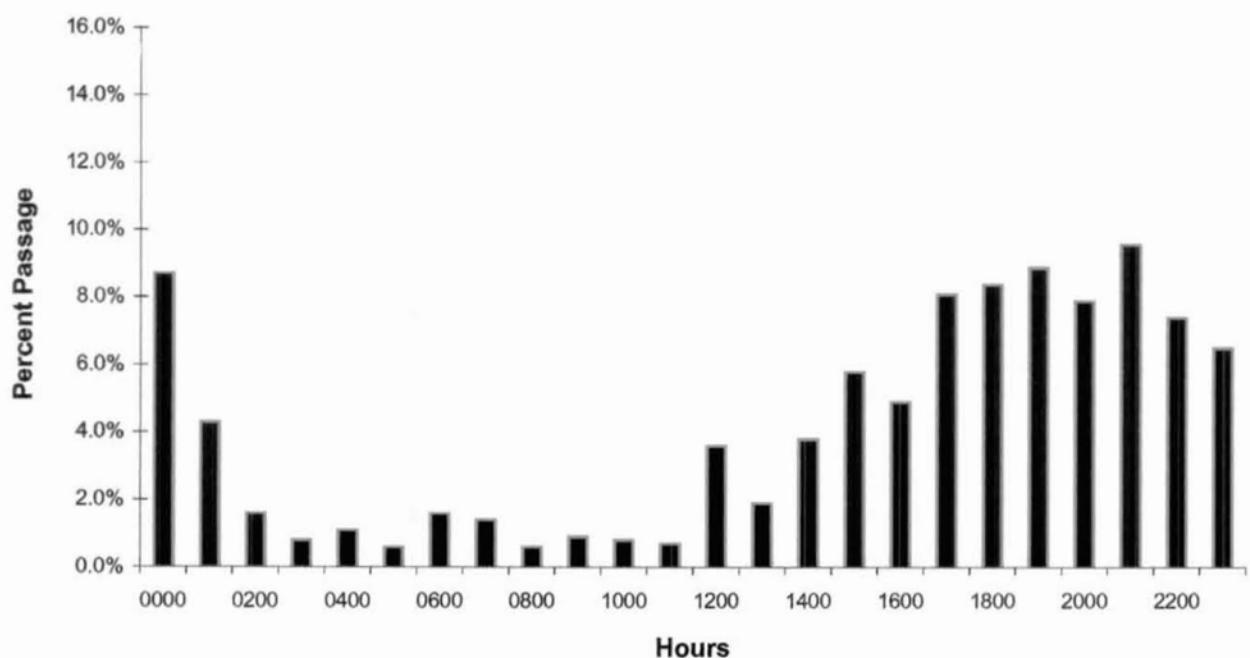


Figure 14. Diurnal pattern of coho salmon migration past the North River counting tower, Norton Sound, 2000.



Appendix Table 1. Estimated daily cumulative chum salmon escapement past the North River counting tower,
Norton Sound, 1972-1974, 1984-1986 and 1996-2000.

Date	1972	1973	1974	1984	1985	1986	1996	1997	1998*	1999	2000	Average Cumulative Chum Salmon
15-Jun									0			
16-Jun								0	0			0
17-Jun								16	0	0		5
18-Jun								4	0	0		1
19-Jun								-18	0	0		-6
20-Jun								-10	0	0		-3
21-Jun								-6	2	0		-1
22-Jun								-6	3	0		-1
23-Jun								-6	5	0		0
24-Jun								168	7	0		58
25-Jun		0	0				0	180	19	0		33
26-Jun		0	1				0	201	58	0		43
27-Jun		19	1	0			0	226	107	0		50
28-Jun		23	1	0			14	253	222	0		73
29-Jun	0	33	88	0			82	289	335	0		103
30-Jun	0	91	124	0			308	335	571	0	0	159
1-Jul	9	177	320	0			562	497	701	6	2	534
2-Jul	9	217	395	0			784	737	737	22	3	628
3-Jul	19	369	431	0			999	1,585	809	23	3	774
4-Jul	59	533	489	0			1,439	2,468	898	46	3	1,030
5-Jul	72	633	511	0			1,485	3,360	987	70	3	1,122
6-Jul	79	717	533	15			1,668	3,916	1,118	116	3	907
7-Jul	96	88	751	551	20		1,792	4,446	1,232	204	17	1,614
8-Jul	215	96	769	570	23		1,921	4,914	1,339	235	19	1,691
9-Jul	272	121	776	579	25		2,011	5,038	1,481	269	85	2,283
10-Jul	344	288	776	600	25		2,251	5,268	1,548	355	158	2,437
11-Jul	548	681	776	675	38		2,485	5,610	1,598	474	243	2,587
12-Jul	687	891	776	776	52		2,655	5,976	1,680	581	267	2,799
13-Jul	777	1,041	780	952	364		2,807	6,468	1,803	595	325	3,049
14-Jul	958	1,545	793	1,184	458		2,953	6,734	1,873	603	371	1,591
15-Jul	1,114	2,144	798	1,437	573		3,158	7,122	2,169	653	507	3,351
16-Jul	1,418	2,190	810	1,531	633		3,552	7,340	2,734	717	658	3,487
17-Jul	1,696	2,436	826	1,895	694		3,628	7,450	3,058	749	1,069	3,623
18-Jul	1,742	2,666		2,072	826		3,738	7,820	3,290	801	1,294	3,759
19-Jul	1,742	3,087		2,150	1,077			8,350	3,582	826	1,432	3,895
20-Jul	1,754	3,310		2,461	1,730			8,671	3,880	846	1,722	4,031
21-Jul	1,859	3,546		2,572	1,834			8,883	4,310	860	1,891	4,167
22-Jul	1,990	3,798		2,692	1,985			9,173	4,464	872	2,060	4,303
23-Jul	2,119	4,334		2,812	2,126			9,501	4,647	896	2,229	4,392
24-Jul	2,204			2,846	2,276			9,715	4,719	913	2,398	4,445
25-Jul	2,241			2,870	2,413			9,789	4,817	924	2,567	4,642
26-Jul	2,268			2,896	2,539				4,943	953	2,607	4,678
27-Jul	2,285			2,908	2,643				5,044	993	2,663	4,674
28-Jul	2,332			2,915	2,733				5,175	1,033	2,739	4,688
29-Jul					3,129				5,382	1,065	2,769	4,740
30-Jul					3,261				5,770	1,103	2,811	4,780
31-Jul					3,353				5,958	1,172	2,856	4,825
1-Aug					3,526				6,076	1,213	2,895	4,863
2-Aug					3,638				6,150	1,245	2,937	4,912
3-Aug					3,750				6,235	1,261	2,986	4,984
4-Aug					3,839				6,316	1,277	3,010	4,934
5-Aug					3,959				6,392	1,293	3,084	4,935
6-Aug					4,040				6,468	1,309	3,140	4,937
7-Aug					4,098				6,504	1,325	3,204	4,943
8-Aug					4,129				6,556	1,346	3,254	4,964
9-Aug					4,176				6,612	1,382	3,283	4,912
10-Aug					4,212				6,663	1,500	3,301	4,951
11-Aug					4,265				6,707	1,526	3,348	4,981
12-Aug					4,301				6,740	1,526	3,419	4,971
13-Aug					4,326				6,778		3,480	4,861
14-Aug					4,362				6,793		3,540	4,898
15-Aug					4,366				6,808		3,599	4,924
16-Aug					4,377				6,823		3,800	5,000
17-Aug					4,406				6,838		3,929	5,058
18-Aug					4,425				6,853		4,046	5,108
19-Aug					4,457				6,868		4,158	5,161
20-Aug					4,472				6,877		4,378	5,242
21-Aug					4,473				6,861		4,570	5,301
22-Aug					4,480				6,875		4,747	5,367
23-Aug					4,488				6,877		4,877	5,414
24-Aug					4,499				6,891		5,023	5,471
25-Aug					4,512				6,904		5,165	5,527
26-Aug					4,520				6,904		5,317	5,580
27-Aug					4,526						5,421	4,974
28-Aug					4,531						5,490	5,011
29-Aug					4,537						5,559	5,048
30-Aug					4,550						5,596	5,073
31-Aug					4,567						5,600	5,084

* 1998 estimates prior to 8 July are unreliable because of problems with the weir and flash panel

Appendix Table 2. Estimated daily cumulative pink salmon escapement past the North River counting tower,
Norton Sound, 1972-1974, 1984-1986, and 1996-2000.

Date	1972	1973	1974	1984	1985	1986	1996	1997	1998 ^a	1999	2000
15-Jun									0		
16-Jun							0	0	0		
17-Jun							2	0	0		0
18-Jun							4	0	0		0
19-Jun							4	0	0		0
20-Jun							4	0	0		0
21-Jun							7	0	0		0
22-Jun							13	0	0		6
23-Jun							69	0	0		1,164
24-Jun							183	0	0		1,312
25-Jun		111	27			0	277	0	0		4,358
26-Jun		371	27			20	466	0	16		5,358
27-Jun		2,410	379	0		42	672	0	34		7,024
28-Jun		5,366	4,201	0		542	958	4	53		7,174
29-Jun	0	14,140	30,301	0		3,162	1,339	24	143		8,780
30-Jun	0	36,909	70,057	0		10,648	1,683	147	223	0	11,852
1-Jul	49	49,445	141,035	0		18,685	2,437	355	425	0	21,560
2-Jul	83	59,699	175,065	0		44,335	3,303	486	1,273	0	30,766
3-Jul	187	85,613	213,513	0		70,567	6,909	692	1,627	0	38,808
4-Jul	539	108,778	244,864	0		120,907	28,338	1,006	4,523	0	41,252
5-Jul	1,004	120,023	255,068	0		136,727	64,205	1,320	7,458	0	42,866
6-Jul	1,196	131,573	261,472	0		157,516	124,775	1,840	13,056	166	43,958
7-Jul	3,790	1,394	141,361			267,837	0	170,730	159,527	3,068	25,172
8-Jul	11,743	1,504	143,621			274,201	0	179,083	184,489	4,648	29,038
9-Jul	18,374	1,931	143,692			276,696	0	185,913	198,253	5,509	30,466
10-Jul	23,589	3,276	143,724			283,051	0	195,468	213,351	6,114	37,988
11-Jul	30,323	6,925	143,764			293,200	11	202,944	227,431	6,430	42,832
12-Jul	34,836	10,115	143,764			303,493	13	208,597	240,976	6,856	47,733
13-Jul	39,428	12,265	143,772			315,069	23	213,705	260,174	7,495	50,515
14-Jul	42,550	16,510	143,777			330,354	79	217,106	269,748	7,966	51,971
15-Jul	46,046	19,384	143,783			345,473	135	219,354	279,962	9,010	55,225
16-Jul	49,000	20,028	143,785			368,228	201	228,168	288,006	16,704	58,909
17-Jul	50,801	21,094	143,789			400,054	250	231,798	293,082	23,330	60,645
18-Jul	52,079	22,192				417,711	407	236,487	299,382	30,418	63,091
19-Jul	52,303	23,205				426,787	753	306,986	40,383	64,592	27,821
20-Jul	52,512	24,323				438,645	1,350	314,103	50,923	65,606	30,239
21-Jul	52,956	25,265				440,167	1,591	319,901	64,899	66,518	31,854
22-Jul	53,409	25,976				444,602	1,917	324,945	69,649	67,170	33,469
23-Jul	53,965	26,542				449,037	2,179	329,293	81,922	67,452	35,084
24-Jul	54,320					451,423	2,439	331,905	86,914	67,856	36,699
25-Jul	54,545					453,398	2,701	332,539	90,522	68,298	38,314
26-Jul	54,710					455,204	2,924		93,504	68,853	38,656
27-Jul	54,763					456,875	3,159		95,959	69,427	39,372
28-Jul	54,934					458,387	3,301		98,363	69,811	40,152
29-Jul							3,431		102,706	70,485	40,728
30-Jul							3,534		108,868	71,005	41,258
31-Jul							3,627		111,202	71,530	42,094
1-Aug							3,704		113,718	72,141	42,745
2-Aug							3,783		116,490	72,604	43,422
3-Aug							3,940		119,332	72,792	44,189
4-Aug							4,009		121,892	72,974	44,767
5-Aug							4,052		123,171	73,156	45,363
6-Aug							4,112		124,229	73,338	45,767
7-Aug							4,135		124,735	73,520	46,501
8-Aug							4,158		125,431	73,713	47,012
9-Aug							4,228		126,142	73,847	47,390
10-Aug							4,269		126,787	73,973	47,594
11-Aug							4,284		127,351	74,045	47,823
12-Aug							4,295		127,774	74,045	48,020
13-Aug							4,322		127,946		48,173
14-Aug							4,322		127,989		48,330
15-Aug							4,330		128,032		48,491
16-Aug							4,334		128,075		48,600
17-Aug							4,337		128,118		48,695
18-Aug							4,337		128,161		48,786
19-Aug							4,344		128,204		48,835
20-Aug							4,351		128,146		48,886
21-Aug							4,351		128,000		48,915
22-Aug							4,349		127,968		48,941
23-Aug							4,350		127,964		48,959
24-Aug							4,354		127,944		48,973
25-Aug							4,355		127,930		48,983
26-Aug							4,356		127,926		48,993
27-Aug							4,357				48,993
28-Aug							4,358				48,993
29-Aug							4,359				48,993
30-Aug							4,360				48,993
31-Aug							4,360				48,993

^a 1998 estimates prior to 8 July are unreliable because of problems with the weir and flash panel

Appendix Table 3. Estimated daily cumulative king salmon escapement past the North River counting tower,
Norton Sound, 1972-1974, 1984-1986, and 1996-2000.

Date	1972	1973	1974	1984	1985	1986	1996	1997	1998 ^a	1999	2000
15-Jun							8	2	0		
16-Jun							6	5	2	0	
17-Jun							4	25	4	2	
18-Jun							0	25	7	2	
19-Jun							0	25	11	14	
20-Jun							0	25	15	18	
21-Jun							-6	27	15	18	
22-Jun							-9	31	22	22	
23-Jun							-9	45	44	30	
24-Jun							-5	70	64	32	
25-Jun		0	0			0	-9	150	90	44	
26-Jun		0	0			2	-12	251	116	46	
27-Jun		1	0	0		2	-13	367	127	52	
28-Jun		3	0	0		2	-14	693	132	50	
29-Jun	1	6	55	0	8	-14	1,091	140	74		
30-Jun	1	42	101	0	42	-12	1,730	140	6	152	
1-Jul	1	48	513	0	116	-2	2,118	160	14	208	
2-Jul	6	53	642	0	158	6	2,288	172	17	258	
3-Jul	10	88	745	0	198	44	2,543	177	19	328	
4-Jul	16	125	984	0	326	145	2,756	190	19	368	
5-Jul	19	151	1,038	1	338	306	2,969	203	19	392	
6-Jul	2	173	1,207	35	438	416	3,150	215	19	432	
7-Jul	11	22	184	1,274	34	609	528	3,220	303	21	514
8-Jul	15	26	191	1,341	34	731	606	3,304	359	27	566
9-Jul	30	33	191	1,367	34	827	652	3,324	430	57	794
10-Jul	50	43	192	1,418	34	953	708	3,358	510	92	822
11-Jul	126	71	192	1,648	32	1,167	738	3,379	769	144	830
12-Jul	172	82	192	1,957	33	1,230	793	3,416	1,011	192	838
13-Jul	194	83	193	2,126	39	1,294	869	3,460	1,061	216	854
14-Jul	245	87	196	2,242	71	1,364	927	3,508	1,133	272	854
15-Jul	309	94	196	2,358	126	1,446	1,005	3,584	1,193	308	899
16-Jul	376	97	196	2,481	213	1,518	1,033	3,690	1,285	362	922
17-Jul	406	119	196	2,602	260	1,557	1,059	3,830	1,399	485	945
18-Jul	458	150		2,674	314	1,613	1,077	3,879	1,455	570	968
19-Jul	466	150		2,706	366		1,113	3,939	1,494	630	991
20-Jul	475	216		2,784	563		1,153	3,998	1,576	1054	1017
21-Jul	492	231		2,803	635		1,179	4,048	1,668	1275	1040
22-Jul	508	262		2,825	748		1,187	4,078	1,758	1496	1063
23-Jul	521	298		2,847	824		1,193	4,116	1,864	1717	1076
24-Jul	535			2,845	958		1,197	4,131	1,907	1938	1078
25-Jul	544			2,840	1,093		1,197	4,150	1,946	2159	1085
26-Jul	551			2,844	1,168			4,158	1,989	2175	1077
27-Jul	556			2,848	1,213			4,160	2,009	2195	1063
28-Jul	561			2,844	1,266			4,169	2,011	2215	1065
29-Jul					1,300			4,180	2,025	2237	1065
30-Jul					1,322			4,186	2,037	2239	1065
31-Jul					1,328			4,186	2,051	2244	1055
1-Aug					1,341			4,186	2,061	2249	1046
2-Aug					1,356			4,185	2,068	2253	1044
3-Aug					1,366			4,185	2,074	2256	1044
4-Aug					1,381			4,185	2,079	2258	1044
5-Aug					1,382			4,185	2,084	2260	1044
6-Aug					1,392			4,185	2,089	2264	1044
7-Aug					1,397			4,185	2,094	2264	1044
8-Aug					1,414			4,185	2,096	2264	1044
9-Aug					1,418			4,185	2,094	2264	1044
10-Aug					1,423			4,185	2,096	2262	1044
11-Aug					1,427			4,185	2,100	2260	1044
12-Aug					1,429			4,185	2,100	2262	1046
13-Aug					1,429			4,185		2260	
14-Aug					1,432			4,185		2259	
15-Aug					1,428			4,185		2259	
16-Aug					1,428			4,185		2255	
17-Aug					1,425			4,185		2255	
18-Aug					1,424			4,185		2255	
19-Aug					1,424			4,185		2255	
20-Aug					1,425			4,185		2257	
21-Aug					1,426			4,185		2258	
22-Aug										2259	
23-Aug										2260	
24-Aug										2261	
25-Aug										2262	
26-Aug										2263	
27-Aug										2263	
28-Aug										2263	
29-Aug										2263	
30-Aug										2263	
31-Aug										2263	

^a 1998 estimates prior to 8 July are unreliable because of problems with the weir and flash panel.

Appendix Table 4. Estimated daily cumulative coho salmon escapement past the North River counting tower,
Norton Sound, 1985 and 1996-2000.

Date	1985	1996	1997	1998	1999	Avg,85-99	2000
5-Jul	0	0	0	0	0	0	0
6-Jul	0	0	0	0	0	0	0
7-Jul	0	0	0	0	0	0	0
8-Jul	0	0	0	0	0	0	0
9-Jul	0	6	0	0	0	1	0
10-Jul	0	8	0	0	0	2	0
11-Jul	0	8	0	0	0	2	16
12-Jul	0	12	0	0	0	2	20
13-Jul	0	29	0	0	0	6	20
14-Jul	0	41	0	0	0	8	20
15-Jul	0	53	0	0	0	11	36
16-Jul	0	73	3	0	0	15	69
17-Jul	0	103	9	0	0	22	102
18-Jul	0	149	18	0	0	33	135
19-Jul	0	279	35	0	0	63	168
20-Jul	0	441	54	0	1	99	201
21-Jul	0	593	80	20	3	139	234
22-Jul	0	681	100	56	5	168	267
23-Jul	0	997	140	110	7	251	304
24-Jul	0	1,175	158	152	9	299	468
25-Jul	0	1,229	192	180	11	322	724
26-Jul	0		214	232	15	338	820
27-Jul	0		246	302	67	369	864
28-Jul	0		301	400	97	405	1090
29-Jul	8		395	500	181	463	1422
30-Jul	31		569	600	235	533	1882
31-Jul	57		725	726	323	612	2089
1-Aug	97		991	852	438	721	2357
2-Aug	140		1,181	1,149	579	856	2502
3-Aug	193		1,338	1,381	748	978	2850
4-Aug	216		1,448	1,613	891	1,079	3436
5-Aug	265		1,527	1,845	1164	1,206	3974
6-Aug	319		1,640	2,077	1282	1,309	4699
7-Aug	374		1,738	2,309	1470	1,424	5559
8-Aug	419		1,858	2,555	1608	1,534	5930
9-Aug	500		2,192	2,817	1728	1,693	5938
10-Aug	536		2,532	3,163	1856	1,863	6561
11-Aug	645		2,865	3,361	1986	2,017	6897
12-Aug	686		3,209	3,361	2174	2,132	6961
13-Aug	725		3,499		2304	2,224	
14-Aug	781		3,694		2433	2,300	
15-Aug	988		3,889		2561	2,406	
16-Aug	1,117		4,084		2781	2,514	
17-Aug	1,211		4,279		2893	2,595	
18-Aug	1,272		4,474		2973	2,662	
19-Aug	1,345		4,669		3068	2,734	
20-Aug	1,409		4,860		3325	2,837	
21-Aug	1,507		5,026		3519	2,928	
22-Aug	1,568		5,208		3721	3,017	
23-Aug	1,631		5,404		3920	3,109	
24-Aug	1,688		5,629		4087	3,199	
25-Aug	1,759		5,758		4284	3,278	
26-Aug	1,816		5,768		4447	3,324	
27-Aug	1,872				4567	3,359	
28-Aug	1,920				4643	3,384	
29-Aug	1,966				4719	3,409	
30-Aug	2,010				4780	3,430	
31-Aug	2,045				4792	3,439	